



Chemical Safety

Chemical Hygiene Program

Tax-Free Alcohol (Ethanol) Management Manual

Department of Environmental Health & Safety

Phone: (410) 704-2949

Fax: (410) 704-2993

Email: safety@towson.edu

Website: <https://www.towson.edu/public-safety/environmental-health-safety/>

Emergency: 911

TUPD: (410) 704-4444

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Purpose

The purpose of this program is to establish procedures for the acquisition, distribution, and use of tax-free alcohol by Towson University employees in the permitted building.

Scope

The scope of the program pertains to the purchase, storage, distribution, safety, use, monitoring, and tracking of tax-free alcohol (TFA) by University faculty/staff. The laws and regulations of tax-free alcohol apply to the whole campus community; however, the purpose and use of TFA is limited to the specific campus building which is federally permitted by TTB. Tax-free alcohol purchased through this permit is limited to academic and research use and is not for human consumption. TFA acquisition and use is restricted to the guidelines found in this program, regardless of its source or supplier.

Definitions

CIDB: Chemical Inventory Database program related to tracking chemical inventory and safety data sheets. The computer application, Vertere CHIM, is used to administer the program.

Ethanol Room: A specially designated location within the Science Complex strictly used for the safe storage of tax-free alcohol in bulk. The facility is locked and fireproof/explosion-proof.

Inventory Log: A physical notebook with sign-out sheets used to track distribution of tax-free alcohol to end users from the Ethanol Room.

Personal Protective Equipment (PPE): Specialized clothing or devices worn by users to protect them from work-related hazards.

Tax-free alcohol (TFA): Ethyl alcohol (alternatively known as ethanol) that is purchased by the University, which has an approved Industrial Alcohol Permit from the TTB to purchase alcohol free of the Federal Alcohol Tax. This product is typically sold as 190 proof (95% alcohol by volume) or higher.

TTB: The U.S. Alcohol and Tobacco Tax & Trade Bureau, which is responsible for tax collection and trade regulation, and was formerly part of the Bureau of Alcohol, Tobacco, and Firearms (ATF).

Responsibilities

A. Environmental Health & Safety (EHS)

1. EHS will assist in spill cleanup, decontamination, and disposal as required.
2. EHS will provide safety training and information as required.
3. EHS will investigate and document all reported incidents that are related to ethanol misuse or mishandling, and it will recommend corrective actions.

4. EHS will review and revise the program as needed for compliance with applicable regulations and TU policy.
- B. Deans and Department Heads (Supervisors)**
1. Supervisors will ensure that faculty/staff are in compliance and follow procedure for TFA purchase and use.
 2. Supervisors will hold users responsible for compliance and remove access to tax-free alcohol due to non-compliance.
- C. Ethanol Management Coordinators (Coordinators)**
1. Coordinators will purchase and receive TFA in accordance with procedures contained herein, maintain permits and records including Inventory Log, and track TFA inventory and storage.
 2. Coordinators will manage personnel authorization for TFA use and Ethanol Room access.
 3. Coordinators will perform inspections and evaluate program with EHS.
- D. Laboratory Personnel**
1. Laboratory personnel will follow procedures contained herein, properly sign out TFA, and maintain inventory of TFA.
 2. Laboratory personnel will properly label, transport, store, use, and dispose TFA.

Introduction

Towson University Fisher College of Science & Mathematics (FCSM) has a special tax-free alcohol permit, issued by the federal government, which allows scientific departments to purchase tax-free alcohol (TFA) without paying any federal tax for certain research purposes. Tax-free alcohol refers to ethyl alcohol (ethanol) that is 190 proof or higher and is regulated by the Alcohol and Tobacco Tax and Trade Bureau (TTB). This provides substantial cost-benefit to the user and the University. However, there are strict federal regulations associated with the permit that are required to maintain the cost savings. Laboratories which use tax-free alcohol are required to follow specific purchasing, receiving, storage, disposal, and recordkeeping protocols, as identified in this document. TTB requires that the use of tax-free alcohol shall be restricted to scientific, medicinal, and mechanical purposes. Users must maintain positive control over supplies received, issued, and/or stored that can be verified by records maintained and available for audit at any time.

Applicable Regulations

- 27 CFR Part 22 – Distribution and Use of Tax-Free Alcohol
- 29 CFR 1910.1200 – Hazard Communication
- 29 CFR 1910.1450 - Occupational Exposure to Hazardous Chemicals in Laboratories

Procedure

A. Authorization Policy, Oversight, & Reporting

1. Entry Authorization

- a) Access to the Ethanol Room is restricted to relevant personnel only. Personnel will be familiar with all safety procedures.
- b) Personnel must be authorized by Ethanol Management Coordinators. Coordinators manage the FCSM Approved Users list.
- c) Ethanol Room entry and exit will take place through a secure entrance by key or card access, and wear personal protective equipment as required.

2. Request to Use/Signing Out Process

- a) Tax-free alcohol may not be removed from the original packages or containers, until catalogued and signed out. Designated employees will record in TU's Chemical Inventory Database (CIDB) the new location, update and print the new barcode tag and log in writing the end user, quantity, proof or %, and storage/use in the binder located inside of the Ethanol Room.
 - i. *All end users are to submit a formal request a minimum of 24 hours prior to use via email to FCSM-designated current employees (see Appendix C) including the quantity and alcohol proof (190 proof [95%] and 200 proof [100%]), and new location.*
 - ii. *End users may not relocate or move TFA to a new location without notifying the designated employees who are required to update Chemical Inventory Database (CIDB).*
- b) End users must update the Inventory Log within the Ethanol Room upon receipt of tax-free alcohol item(s) or the Ethanol Management Coordinator must do so on their behalf prior to delivery to the end user.

3. Oversight

- a) Ethanol Management Coordinators manage inventory through permitting, acquisition, and providing authorization.
- b) EHS and Ethanol Management Coordinators conduct periodic inspections on inventory and respond to reports of misuse or loss.

4. Reporting

- a) Laboratory personnel will notify their Supervisors/Principal Investigator of any potential or known exposures to TFA.
- b) Laboratory personnel will report injuries, illnesses, incidents, and near misses to the Supervisor/Principal Investigator and appropriate oversight parties.
- c) Laboratory personnel will notify appropriate oversight parties of unauthorized entry or other security concerns in their laboratories

or the Ethanol Room, and if there is an immediate threat, contact TUPD at 410-704-4444.

- d) Failure to regard oversight parties, proper authorization, and procedures may result in individuals facing disciplinary action, suspension of use, laboratory shutdown, and/or other consequences.

B. Purchasing & Ordering

1. A FCSM-designated representative is responsible for ordering.
2. All requisitions for tax-free alcohol must have a copy of the federal Industrial Alcohol User Permit attached. Purchasing will reject any requisition that does not include a copy of the permit.
3. Tax-free alcohol must be shipped directly to the Science Complex, not Central Receiving, to maintain compliance with Federal and State regulations.

C. Receiving

1. A FCSM-designated representative is responsible for receiving.
2. Tax-free alcohol must be received at the time of delivery by the purchaser, or designated receiver for the department.

D. Handling/Transport

1. Tax-free alcohol (TFA) cannot be transported from one building to another and must be delivered to the Science Complex, the location in which it will be used and stored.
2. Contact EHS to discuss any chemical transport, such as hazardous waste.
3. Use devices such as a cart or hand truck to move TFA, making sure that container(s) are secured during transport. Employ a secondary container where necessary.
4. Wear the appropriate PPE and clothing when handling ethanol such as splash goggles, compatible gloves, long sleeve shirt, long pants, and closed toe shoes.

E. Hazard Communication for Reagents & Dilutions

1. Inventory
 - a) Tax-free alcohol (TFA) must be entered into CIDB upon purchase following the steps in the [CIDB Manual](#) for adding inventory items (Step B of that manual).
 - b) The items must be updated in CIDB upon arrival using Step D of that manual.
 - c) TFA removed from the Ethanol Room must be entered into the Inventory Log within this room upon its physical removal.
 - d) Periodically, TFA inventory shall be reconciled by Ethanol Management Coordinators, such as when new TFA is received.
2. Labeling
 - a) CIDB barcode tags must be printed and attached to each physical container of tax-free alcohol. Ethanol Management Coordinators will have CIDB printer access or contact EHS for assistance.

- b) Tax-free alcohol received from the manufacturer/vendor shall be labeled prior to receipt. All reagents and dilutions made from tax-free alcohol are to be appropriately and accurately labeled immediately upon receipt.
 - c) If tax-free alcohol is transferred to safety containers in accordance with fire code regulations, the containers to which they are transferred shall be appropriately marked to identify the package from which transferred, the quantity transferred, the date of transfer, and the name and address of the vendor. Secondary containment should be labeled similarly.
 - d) See [Chemical Labeling](#) on the EHS webpage for more information.
3. Safety Data Sheets
- a) Safety data sheets shall be available through CIDB using Step E of the [CIDB Manual](#) or in physical notebook(s) within the laboratory.

F. Storage

- 1. The regulations require the secure storage of tax-free alcohol (TFA) while unattended or removing an amount from the inventory for use.
- 2. Secure storage requirements include:
 - a) Prior to initial use and signing out, all TFA is required to be stored in the Ethanol Room;
 - b) After signing out from Ethanol Room and while in use, store TFA in flammables storage cabinet under a fume hood within a secure laboratory (with locking doors); and
 - c) Storage in accordance with [chemical storage guidelines](#).

G. Guidelines for Use & Prohibitions

- 1. Approved Use
 - a) Item owners must be FCSM-approved users.
 - b) Tax-free alcohol (TFA) is to be used exclusively for authorized purposes. Examples of acceptable uses for tax-free alcohol and its dilutions are as an antiseptic, cleaner, dehydrant, disinfectant, preservative, reagent, carrier/solvent, or other academic or research use.
 - c) The user shall observe and understand all hazards associated with TFA use, and use in accordance with appropriate [chemical hygiene practices](#).
 - d) Researchers and other users are encouraged to substitute TFA with reagent-grade alcohol (denatured alcohol) where possible to minimize the amount of recordkeeping and liability.
 - e) If a user is found utilizing tax-free alcohol differently than described above, the user will be removed from the FCSM Approved Users list.
- 2. Loss
 - a) Loss of tax-free alcohol may occur due to facility/property damage, shipment error, spill, or theft.

- b) If this occurs, the end user shall inform an Ethanol Management Coordinator and EHS in writing of the facts and circumstances related to the loss. In case of theft, TUPD and TTB will be notified of the facts and circumstances related to the loss.
- 3. Prohibited Use for Tax-Free Alcohol
 - a) TFA may not be consumed in any way, used for beverage purposes, or in any food product, or in any preparation used in preparing a beverage or a food product.
 - b) TFA may not be sold, used in the manufacture of any product which will be sold, or in any product resulting from its use which will be sold.
 - c) TFA may not be removed from the premises as authorized under the permit.

H. Inspections

- 1. Inspections shall take place on a semi-annual basis.
- 2. Inspections will encompass the Ethanol Room, tax-free alcohol inventory within the room, and the Inventory Log kept within the room.
- 3. If any discrepancies occur, relevant documents, laboratories, and interviews with personnel may be added to the inspection.

I. Recordkeeping

- 1. Documents related to tax-free alcohol must be available for inspection and will be retained for at least a period of three (3) years.
- 2. Documents for tax-free alcohol include records of purchase, receipt, inventory/use logs, or loss for a period of three (3) years.
 - a) Purchase/receipt records may include invoices, bill of lading, packing slip, or other documents intended for this purpose.
 - b) Purchase records shall have item identity including alcohol proof, transaction date, quantity purchased, and receipts shall include item identity and quantity received.
- 3. A copy of the approved Industrial Alcohol Permit from the TTB shall be kept on file by the Ethanol Management Coordinator(s), specifically the individual(s) responsible for purchase.

J. Program Evaluation

- 1. Periodic Review
 - a) Periodic review of the effectiveness of the program will occur.
 - b) EHS will conduct periodic surveys to determine the effectiveness of the program.
 - c) Ethanol Management Coordinators may contribute data and insights into how to improve the program.
 - d) Evaluation will be based on audits, number and type of incidents related to the use, and compliance.
- 2. Modifications
 - a) Any modifications to the current program must be approved by EHS and Ethanol Management Coordinators, recorded, and addressed to end users.

K. Emergency Procedures

1. Personnel Injury/Illness/Exposure

- a) In case of emergency, call 911 or TUPD for 410-704-4444.
- b) If applicable, contact the National Poison Control Center at 1-800-222-1222.
 - i. *See Appendix A for other emergency contact telephone numbers.*
- c) First aid kits for minor injuries are provided by your department and will be found within the facility.
- d) Eyewashes and safety showers are available for use by personnel in laboratory spaces as required.
 - i. *Eye Exposure: Go to an eyewash station and rinse for at least 15 minutes.*
 - ii. *Skin Exposure: Wash ethanol off skin with plenty of soap and water.*

2. Contamination/Spill

- a) In case of a major contamination or spill (e.g. immediately dangerous to life or health, cannot be contained to the room), immediately exit the facility, and do not re-enter the contaminated environment until the condition can be corrected.
- b) Warn others in the laboratory of the emergency on your way out of the facility.
- c) Contact EHS at 410-704-2949.
- d) Report the nature/hazard of the spill (i.e. whether biological or chemical, volume or mode of contamination [airborne, toxic, etc.]), and any other pertinent information.

3. Fire/Emergency Evacuation

- a) In case of fire or required evacuation (e.g. natural gas leak, severe weather event), stop work immediately and evacuate the facility, shutting down operations on the way out of the laboratory.
- b) Warn others in the laboratory of the emergency on your way out of the facility.

4. Security Threat/Breach

- a) In case of security threat, contact TUPD at 410-704-4444.
- b) Security threats may include unauthorized individuals entering the laboratory, Ethanol Room, or Chemical Stockroom. Individuals threatening or harming laboratory personnel, the facility, or research being conducted, or otherwise intentionally causing harm or trespassing.

L. Disposal & Waste Management

1. Tag Disposal

- a) Prior to following established TU protocols for the removal of the physical bottles, disposal of the barcode tag is required and submitted to designated employees, the Biology Lab Manager and the Chemistry & Forensics Operations Manager, to update CIDB.

2. Waste Management

- a) Tax-free alcohol cannot be disposed of down the drain at any concentration.
- b) It must be collected and disposed of as hazardous waste. Contact EHS to schedule a waste pickup.
- c) Intentional dilution or evaporation of ethanol or any other waste as a substitute for proper disposal is illegal. Likewise, you cannot boil off or evaporate ethanol waste in place of proper disposal.

M. Training

1. For training in Chemical Lab Safety or Personal Protective Equipment, it may be assigned/accessed virtually through Vector Solutions SafeColleges found at the following URL: <https://towsonehs-md.safecolleges.com/training/home>. Workers shall request training by emailing safety@towson.edu or by calling the Environmental Health & Safety (EHS) office at 410-704-2949.
2. For training in inventory or label use, contact EHS for [CIDB training](#).
3. Re-training for specific safety programs shall take place as required, typically on an annual basis. However, re-training may also take place on an as-needed basis, such as violations or noncompliance with policies and procedures, when the need is determined by Supervisor or oversight parties.

Resources

A. Environmental Health & Safety

To request guidance, training, hazardous waste disposal, or for general inquiries concerning this program, contact EHS by emailing safety@towson.edu or by calling the Environmental Health & Safety (EHS) office at 410-704-2949. Location: Public Safety Building, PS 205; Hours: Monday - Friday, 8 a.m. to 4:30 p.m. Phone: 410-704-2949

B. OSHA

1. [Hazard Communication Guidance](#)
2. [Laboratory Safety Guidance](#)

C. TTB

1. [Tax and Trade Bureau](#)

Appendix A: Emergency Contact Telephone Numbers

FIRE - RESCUE - EMERGENCY MEDICAL SERVICE: 911

At the emergency blue-light and yellow phones located around campus, press the emergency button to be connected to the University Police who can contact 911 for you, or dial 911 on the keypad to be connected directly to the 911 Center. Give the dispatcher all of the requested information.

Towson University Police Department [TUPD]: (410) 704-4444

For Other Emergencies

Department of Environmental Health and Safety: (410) 704-2949

Concentra Urgent Care [Timonium, MD]: (410) 252-4015

For Occupational Health, Medical Consultation and Evaluation

Facilities Management - Work Control Center: (410) 704-2481

Appendix B: First Aid & Reporting Instructions

Note: The following are suggested medical care facilities. Individuals may choose their own providers for medical care.

For major, immediate illness/injuries: Call 911 and/or go to the nearest hospital (UMD St. Joseph Medical Center, 7601 Osler Dr, Towson, MD 21204)

For minor injuries/illnesses and chronic/ongoing work-related injuries:

Employees: Concentra Occupational Health is open on Monday-Friday, 7:30AM-6:00PM (Concentra Occupational Health, 1830 York Road, Suite F, Timonium, MD 21093).

Complimentary transportation is available for work-related injuries. You may also make a telemedicine visit: by visiting [Concentra Telemed](#).

Students: TU Health Center is open on Monday-Friday, 8:00AM-5:00PM. (Ward West, University Avenue; TU Shuttle Bus service stops here, check schedule for times/stops). Please note that when Towson University is closed, the Health Center is also closed. There is an after-hours answering service and on-call physician available when the center is closed.

Other Nearby Medical Facilities:

MedStar Urgent Care Facility (MHUC) at the following locations:

- Towson at Hillside Avenue is open on Monday-Friday, 8:00AM-8:00PM (MedStar Urgent Care, 7825 York Road, Towson, MD 21204; Phone: 855-910-3278)
- Towson at Anneslie is open on Monday-Friday, 8:00AM-8:00PM (MedStar Urgent Care, 6317 York Road, Towson, MD 21212; Phone: 833-735-1958)

Please see next page for First Aid & Reporting Instructions table.

	Hazard Class:	Biological, Chemical	Biological, Chemical	Biological	Biological, Chemical	Chemical Physical	Chemical, Physical, Radiological	Biological		All	
Personnel Action	Incident Type:	Severe Allergic Reaction, Anaphylaxis	Accidental Ingestion	Animal Contact (Bite, Scratch, Other Contact) Biotoxin/Venom	Accidental Inhalation	Burns/ Contact Exposure	Burns > 3 inch diam., deep/ all skin layers; covers hands, feet, face, groin, buttocks, or major joint/ encircles arm or leg	Injection Needlestick, Sharps Exposure		*If victim is unconscious/ not breathing/ no pulse:	**If victim is conscious, but not breathing normally:
	Severity:	Major	Major	Major	Major	Minor	Major	Minor	Major	Major	Major
Reduce Danger		Stop work immediately.								Stay with victim, if safe to do so. Ensure area is secure.	
		Exit the area, if possible. Seek fresh air.								Keep calm.	
Contact Emergency Medical Services		Call 911 or TUPD at (410) 704-4444					Call 911 or TUPD at (410) 704-4444		Call 911 or TUPD at (410) 704-4444		
		Consult Poison Control Center at 1-800-222-1222 or Safety Data Sheets (SDS) for the chemical [find Section 4: First Aid Measures].							Consult Poison Control Center at 1-800-222-1222 or Safety Data Sheets (SDS)		
Use First Aid		Use EpiPen/ equivalent. *See Right **See Right	Wash affected area (foaming soap & water, or for chemicals – use water only; 15-minute minimum) and/or use eyewash/shower (15-minute minimum) Flush splashes to the nose, mouth, or skin with water. Do not induce vomiting unless instructed.						*Use CPR/AED until assistance arrives.	**Use CPR only.	
		If bleeding, apply firm pressure and wrap. Dry, use first aid kit for ointment and bandage as required, and/or mark area for post-exposure identification/treatment.									
Alert Others		Warn/seek assistance from other personnel, if necessary. Notify Supervisor or have other personnel do so, after commencing first aid.									
Seek Immediate Medical Treatment		Minor Incident: Students – TU Health Center during the times, dates, and address listed. Employees – Concentra Occupational Health during the times, dates, and address listed. Other nearby providers are listed, if the above are not available.						Drive self, drive other(s), or request transport.			
		Major Incident: UMD St. Joseph Medical Center, Emergency Room, 24 hours/day, 7 days/week.									
Report Injury/Incident		File a First Report of Injury with Human Resources, and submit an Environmental Health & Safety Incident Report Form within 24 hours of the injury (or your Supervisor may do this on your behalf). For fatal accident or hospitalization, report to EHS within 8 hours (or TUPD at 410-704-4444 after office hours).									
Seek Post-Exposure Care		Seek medical advice from your primary care physician after initial treatment and advise them that you work with animals. Employees may go to Concentra for follow-up, post-exposure treatment as required.									

Appendix C: Current Ethanol Management Coordinators

- A. **Biological Sciences**, Pam Healey - 410-704-4026 (phealey@towson.edu)
- B. **Chemistry & Forensic Science**, Jennifer Streb - 410-704-3018 (jstreb@towson.edu)
- C. **Science Complex Building Manager**, Josh Wilhide - 410-704-5229
(jwilhide@towson.edu)
- D. **FCSM Budget & Operations Coordinator**, Amanda Charles - 410-704-4119
(aqcharles@towson.edu)

Appendix D: Ethanol Management Regulations & Standards

27 CFR Part 22: Distribution and Use of Tax-Free Alcohol

<https://www.ecfr.gov/current/title-27/chapter-I/subchapter-A/part-22>

29 CFR 1910.1200: Hazard Communication

<https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.1200>

29 CFR 1910.1450: Occupational Exposure to Hazardous Chemicals in Laboratories

<https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.1450>

<https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.1450AppA>

Appendix E: Tax-Free Alcohol Inventory Log Sign-Out Sheet

ETHANOL SIGN OUT

NAME (NEW OWNER) PLEASE PRINT	DATE	NEW LOCATION (ROOM #)	QUANTITY		BARCODE(S)
			5 GAL PAILS	PINTS	

REMINDER – TRANSFER THE ETHANOL IN VERTERE AND UPDATE THE BARCODE LABEL(S) WITH THE NEW OWNER/LOCATION