

Appendix C

Hazardous Wastes Accepted

The Environmental Safety Facility (ESF) accepts all wastes generated by The University of Vermont and State Agricultural College (UVM) operations, including waste from laboratories, fleet maintenance, facilities maintenance, and other miscellaneous campus operations.

UVM has research and teaching laboratories, including art studios, in many buildings on its campuses. These laboratories handle “laboratory scale” chemicals, which means the work involves containers that can easily and safely be manipulated by one person, multiple chemical procedures or chemical substances are used, and protective laboratory practices and equipment are available and in common use to minimize the potential for employee and environmental exposures to hazardous chemicals. The wastes and leftover chemicals from these labs and studios contribute an average of approximately 65% of UVM’s annual hazardous waste.

UVM maintains over 150 buildings, as well as a fleet of vehicles. Cleaning chemicals, fuels, oils, paints, and other maintenance related materials constitute an average of approximately 15% of UVM’s hazardous wastes.

As part of maintaining these facilities, UVM engages in construction, renovation, and excavation projects. These projects often generate non-routine hazardous wastes such as debris from the removal of lead paint, removal of fuel storage tanks, clean up of spills, and remediation of contaminated soils. These wastes make up an average of approximately 20% of UVM’s annual hazardous waste stream; however, these totals can vary greatly from year-to-year, based on the projects on campus.

Additionally, several universal waste types are generated from research, teaching, maintenance, and dormitory activities at any of UVM’s campuses.

For the purposes of this permit, UVM has 10 distinct campuses:

1. Main campus (including Central, Athletic, Redstone, and Centennial campuses) in Burlington
2. Trinity campus in Burlington
3. Environmental Safety Facility (including BioResearch Center, 705 Spear Street, and Miller Education and Research Center) in Burlington and South Burlington
4. Blasberg Horticulture Research Center in South Burlington
5. Rubenstein Ecoscience Systems Lab in Burlington
6. Fort Ethan Allen (including automotive repair shop) in Essex (Essex Junction)
7. Colchester Research Facility in Colchester
8. Proctor Maple Research Facility in Underhill
9. Jericho Research Forest in Jericho and Richmond
10. Morgan Horse Farm in Weybridge (Middlebury)

UVM owns and leases properties throughout Vermont, conducts field research on lands and waters throughout the state, and maintains clinical research facilities, extension offices and administrative offices in off-campus locations. Any of the hazardous wastes, universal wastes and oil wastes generated by activities of UVM and its affiliates and tenants may be accepted at

the Environmental Safety Facility. Additionally, UVM may accept waste from source generators as listed in Appendix D.

List of Hazardous Wastes Accepted

Wastes received at the ESF will be in the form of small containers that are lab packed into larger shipping containers or shipping containers that hold liquid or solid waste in bulk.

Lab packed containers may be solid, liquid, multi-phased, or compressed gas. They may contain unused product or spent reactants. These wastes are assigned a wide variety of hazardous waste codes. Bulk hazardous wastes are usually contained in 5-gallon to 55-gallon containers.

The following tables list the hazardous waste codes that can be accepted at the ESF.

EPA Hazardous Wastes

Waste Codes	Waste Description
F001	The following spent halogenated solvents generated in degreasing processes and their byproducts as noted in 40 CFR 261.31: tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1 trichloroethane, carbon tetrachloride, and chlorinated fluorocarbons.
F002	The following spent halogenated solvents and their byproducts as noted in 40 CFR 261.31: tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1 trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, o-dichlorobenzene, trichlorofluoromethane, and 1,1,2-trichlorethane.
F003	The following spent non-halogenated solvents and their byproducts as noted in 40 CFR 261.31: xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol.
F004	The following non-halogenated solvents and their byproducts as noted in 40 CFR 261.31: cresols, cresylic acid, and nitrobenzene.
F005	The following spent non-halogenated solvents and their byproducts as noted in 40 CFR 261.31: toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, benzene, and 2-nitropropane.
F027	Discarded unused formulations containing tri-, tetra-, or pentachlorophenol or discarded unused formulation containing compounds derived from these chlorophenols.
D001	Wastes exhibiting the characteristics of ignitability as defined in 40 CFR 261.21
D002	Wastes exhibiting the characteristics of corrosivity as defined in 40 CFR 261.21
D003	Wastes exhibiting the characteristics of reactivity as defined in 40 CFR 261.21
D004 - D043	Wastes exceeding the maximum concentration as defined when tested in accordance with 40 CFR 261.24
All "P" & "U" Listed Wastes	Waste that are specifically listed in VHWMR 7-214 and 7-215 or 40 CFR 261.33

Vermont Wastes

Waste Codes	Waste Description
VT01	Wastes containing polychlorinated biphenyls in concentrations equal to or greater than 50 ppm
VT02	Waste containing greater than 5% by weight of petroleum distillates with melting points of less than 100 degrees F, including but not limited to kerosene, fuel oil, hydraulic oils, lubricating oils, penetrating oils, tramp oils, quenching oils, and crankcase and automotive oils which have not been exempted under Section 7-203(n), (o), and (p).
VT03	Waste water soluble oils which have not been exempted under Section 7-203 (1)
VT06	Pesticidal wastes and obsolete pesticidal products not specifically listed otherwise in Subchapter 2.
VT08	Waste ethylene glycol based coolants, antifreezes, solutions containing greater than 700 ppm of ethylene glycol.
VT11	Wastes determined to be hazardous under provisions of Section 7-213 or 7-216
VT20	A solid material that when mixed with an equal weight of distilled water causes the liquid fraction of the mixture to exhibit the properties of the corrosivity characteristic as specified under Section 7-206(a)(3).
VT99	Non-hazardous waste.

Low-Level Mixed Wastes

Low-Level Mixed Waste (LLMW) generated by UVM may be received and stored at the ESF. LLMW is waste that contains both a RCRA hazardous waste and a low-level radioactive waste as defined in 40 CFR §266.210. This waste may be exempt from RCRA hazardous waste determination in accordance with Vermont Hazardous Waste Management Regulations §7-203(f) and 40 CFR §266.230. LLMW that is exempted will be managed under UVM's Vermont Department of Health Radioactive Materials License #: 44-00728-13.

RCRA Waste Codes included in this exemption: D001, D002, D003, D008, D022, F001, F002, F003, F004, F005, VT01, VT02.

List of Universal Wastes to be Accepted

Universal waste generated from activities at UVM may be accepted at the ESF.

"**Universal waste**" means any of the following hazardous wastes that are subject to the universal waste requirements of Vermont Hazardous Waste Management Regulations (VHWMR):

- (a) Batteries as described in VHWMR § 7-902, generated from equipment throughout campus
- (b) Pesticides as described in VHWMR § 7-903, generated from UVM farms, greenhouses, and research operations
- (c) Thermostats as described in VHWMR § 7-904, generated from maintenance operations

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- and equipment disposal.
- (d) PCB-containing fluorescent light ballasts as described in VHWMR § 7-905, generated from maintenance operations and equipment disposal
 - (e) Lamps as described in VHWMR § 7-906, generated from maintenance operations and equipment disposal
 - (f) Mercury-containing devices as described in VHWMR § 7-907, generated from maintenance operations and equipment disposal
 - (g) Cathode ray tubes (CRTs) as described in § VHWMR 7-908, generated from equipment disposal.
 - (h) Postconsumer paint as described in VHWMR § 7-909, generated from maintenance operations and campus projects
 - (i) Aerosol cans as described in VHWMR § 7-910, generated throughout campus