HAZARDOUS WASTE PROGRAM
OFFICE OF FINANCIAL RESPONSIBILITY AND WASTE PROGRAMS
LAND PROTECTION AND REVITALIZATION DIVISION

TEMPORARY EMERGENCY PERMIT

FOR TREATMENT
OF HAZARDOUS WASTE

Permit Granted to: Afton Chemical Corp
Richmond R&D
500 Spring St.
Richmond, VA 23219

EPA Identification Number: VAP000016406

Permit Issuance Date: August 12, 2020

Permit Expiration Date: Upon completion of action described in this Permit or by November 10, 2020, whichever occurs first.

Issued by:

Department of Environmental Quality (DEQ)
Office of Financial Responsibility and Waste Programs
1111 East Main Street
P.O. Box 1105
Richmond, Virginia 23218

Authority:

Name and Address of Permit Applicant:

Afton Chemical Corp
Richmond R&D
500 Spring St.
Richmond, VA  23219

Name, Address of Generator Facility, Phone Number, and EPA ID Number:

Afton Chemical Corp
Richmond R&D
500 Spring St.
Richmond, VA  23219
Phone: 804-788-5000
EPA ID Number:  VAD988204186

Contact Name and Phone Number:

Steve Dugent
EHS Sr. Supervisor
Afton Chemical Corp
Richmond R&D
500 Spring St
Richmond, VA  23219
Phone: 804-788-5842
Fax: 804-788-5081
Cell: 804-543-4263
E-mail: steve.dugent@aftonchemical.com

Name, Location and EPA ID Number of Facility:

Afton Chemical
Richmond R&D
500 Spring St
Richmond, VA  23219
Phone: 804-788-5842
E-mail: steve.dugent@aftonchemical.com

EPA ID Number:  VAP000016406
Afton Chemical Corporation  
Temporary Emergency Permit to Treat Hazardous Waste  
August 26, 2020  
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**Action Authorized:**

Afton Chemical Corp is permitted by this Temporary Emergency Permit to operate as a facility for the treatment of the hazardous waste listed below utilizing the procedures described under the heading “Treatment Procedures.”

**Description of Waste:**

The 4 liter Tetrahydrofuran (THF) container is in excellent condition. The THF was purchased in March of 2020 and opened in June 2020. The THF is un-inhibited and a current Safety Data Sheet (SDS) has been provided to the disposal contractor. The expiration date on the product label is 2021.

According to the SDS and product labels on the original containers, peroxides may form in containers that are aged due to exposure to oxygen in ambient air or sunlight. Afton Chemical has tested the THF with a peroxide strip and found peroxides in the 300-500 ppm range in the THF. Thus the chemical is potentially explosive and is not in a legally shippable condition and must be treated on site.

The product for stabilization is:

Tetrahydrofuran UNNA: 2056 PG: II

Waste Codes:  
D001 – Ignitability  
D003 - Reactivity  
U213 – Listed Waste

According to the SDS’s for the THF the characteristic waste codes of D001 and D003 apply. The THF is also a U-Listed waste with waste code: U213.

**Location of Waste – Description and Map:**

The waste material was stored in Afton Chemical’s Class I, Division I Chemical Storage room in the Hazardous Waste 90-day Accumulation area.

*(See Attachment 2 for the map where the waste material is stored.)*

**Qualifications of Individual(s) Performing the Treatment:**

Environmental Enterprises Incorporated  
320 Johnston road  
Marion, VA 24354

Joey Atkins – Regional Manager  
Barry Helms – Project Manager
Afton Chemical Corporation  
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Thad Moore – Chemical Technician

*(See Attachment 3 for Qualifications of individuals performing the treatment.)*

**When Treatment Is To Occur**

The treatment occurred on August 17th at approximately 1:00 p.m., ending at approximately 3:00 p.m.

**Treatment Area – Description and Map:**

The treatment area was the back corner of the R&D facility parking lot that runs along Byrd St. The back corner of the lot is surrounded on three sides by a wastewater treatment building and two 20ft+ high walls that mark the intersection of Byrd St. and Belvedere St. This area was cordoned off from employee parking and facility traffic was diverted away from the area during the treatment process.

The waste transportation route from the accumulation area to the waste treatment area was inside the facility gate, along the western side of the facility through an employee parking lot.

*(See Attachment 4 for Map of Treatment Area)*

**Name and Phone Number of State and Local Officials Contacted Prior to Treatment:**

Department of Environmental Quality  
Central Office  
Ashby Scott  
1111 East Main Street  
Richmond, VA 23219  
(804) 698-4467  
e-mail: ashby.scott@deq.virginia.gov

Department of Environmental Quality  
Piedmont Regional Office  
Shawn Weimer, Land Protection Manager  
4949-A Cox Road  
Glen Allen, Virginia 23060  
Phone: (804) 527-5055  
E-mail: shawn.weimer@deq.virginia.gov

City of Richmond Fire & Emergency Services  
Lieutenant Ronald Edwards, Jr.  
Assistant Fire Marshal  
201 E. Franklin Street  
Richmond, VA 23219
Evacuation Route:

Evacuation would be accomplished by exiting the facility through the back gate along Byrd St. or around to the East side of the facility exiting the gate that leads to the front of the R&D facility.

*(See Attachment 4 for Map of Evacuation Route)*

Treatment Procedures:

Due to the recent purchase of the THF, its future expiration date and the fact that the bottle has been opened to test without notice of solid residue, EEI stabilized the THF bottle by addition of the reducing solution, ferric sulfate, in excess of the amount of peroxides detected by a factor of two.

The stabilized waste container was then labeled appropriately and transferred to the 90-day hazardous waste storage location by client. The stabilized waste container was then lab packed with other similar waste, manifested and will be transported by a hazardous waste transportation company and disposed of by incineration through a fully licensed TSDF (Clean Harbors).

Transportation Route and Time of Transportation:

The transportation route from the storage area to the waste treatment area was inside the facility gate, along the western side of the facility through an employee parking lot.

*(See Attachment 4 for Map of the Transportation Route.)*

Permit Termination:

This Permit may be terminated by the DEQ at any time, without process, if the determination is made that termination is appropriate to protect human health and the environment.

Permit Standards with which Compliance is Required:

Effective Immediately:

VHWMR Part III, 9 VAC 20-60-265, as adopted from 40 CFR, Part 265, Subpart Q, Chemical, Physical, and Biological Treatment, and Subpart P, Thermal Treatment;

VHWMR Part III, 9 VAC 20-60-270, as adopted from 40 CFR, Part 270, EPA Administered Permit Programs: The Hazardous Waste permit Program; and

VHWMR Part XII, Permit Application and Annual Fees, 9 VAC 20-60-1260, Purpose, Scope and Applicability.

All residuals from the treatment will be managed in accordance with VHWMR Part III, 9 VAC 20-60-262, as adopted from 40 CFR, Part 262, Standards Applicable to Generators of Hazardous Wastes.

**Reporting:**

Within 30 days of permit expiration or termination, the Permittee shall submit to the Department a written Report detailing the times, pertinent events, sampling and analytical data, as applicable, and results of the permitted treatment activity, and any subsequent storage, treatment, and disposal of the remaining waste residuals. Waste manifests, as applicable, for shipment of remaining residuals to a RCRA Treatment, Storage, or Disposal (TSD) Facility, or as applicable, the documentation associated with shipment to or a RCRA Subtitle D facility, shall be included in the Report submittal. Please mail this Report to the following address:

Department of Environmental Quality  
Attn: Ashby Scott  
Hazardous Waste Permit Writer  
1111 East Main Street, Suite 1400  
P.O. Box 1105  
Richmond, VA 23218  
Ashby.Scott@deq.virginia.gov

**Reason for Issuance:**

The Department of Environmental Quality has determined that, because of the circumstances and nature of the waste, expedient action to protect human health and the environment was necessary. The waste treated was determined potentially unstable and treatment on-site was deemed appropriate to be protective of human health and the environment.

A verbal approval of the Emergency Permit was issued on August 12, 2020.

This written Emergency Permit is in accordance with the Virginia Hazardous Waste Management Regulations (VHWMR), 9 VAC 20-60 and 9 VAC 20-60-270, promulgated under the authority of Chapter 14, Title 10.1, Code of Virginia (1950), as amended, and Title 40 Code of Federal Regulations (CFR) § 270.61, Emergency Permits.
Public Comment Period:

A 30-day public comment period is provided. The DEQ solicits written comments on the issuance of the Permit until September 28, 2020. The comments must be received at the DEQ’s Richmond Office address before the end of the comment period.

Written comments are to be sent to Ashby Scott, Virginia Department of Environmental Quality, P.O. Box 1105, Richmond, Virginia 23218. Phone: (804) 698-4467; e-mail: ashby.scott@deq.virginia.gov

A copy of the Permit may be obtained and reviewed at the above DEQ Richmond Office, and at the DEQ’s Piedmont Regional Office (Attn: Shawn Weimer), 4949-A Cox Road, Glen Allen, VA 23060, Phone: (804) 527-5020. Due to COVID-19 public health and safety concerns, documents may be reviewed by appointment only.

The DEQ will accept written comments from the public by electronic mail (e-mail). All comments received by mail or e-mail must provide the commenter’s name, address, and phone number, and an e-mail address should be provided, if available. Comments will not have an effect on the issuance of this Permit; however, comments will be reviewed and considered with regard to issuance of future emergency permits.

Emergency Occurrence:

In the event of an emergency occurrence outside the scope of this Permit, contact Ms. Leslie A. Romanchik at (804) 698-4129 or Ashby Scott, at (804) 698-4467. Upon successful completion of the events authorized by this Permit, contact Ashby Scott, at (804) 698-4467 or by e-mail at ashby.scott@deq.virginia.gov.

Attachments

Attachment 1 – Waste Peroxide-Forming Solvent List
Attachment 2 – Waste Accumulation Location
Attachment 3 – Qualifications of Treatment Specialists
Attachment 4 – Map of Transportation Route, Treatment Area and Evacuation Route
Attachment 5 – Detail of Treatment Process

August 26, 2020

Date

Leslie A. Romanchik
Hazardous Waste Program Manager
Office of Financial Responsibility and Waste Programs
## Waste Peroxide-Forming Solvent List

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Container Size</th>
<th>Waste Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tetrahydrofuran</td>
<td>1 x 4 L</td>
<td>D001, D003, U213</td>
</tr>
</tbody>
</table>
Attachment 2

Waste Location Map
Attachment 3
Treatment Specialists Qualifications

Thad Brian Moore
Field Chemical Technician, Driver
Environmental Enterprises Incorporated

Education
Marion Senior High School
1983-1987 – Advanced Studies

Paramedic Training
Southwest Virginia Emergency Medical Service Council
Certified Graduation 1989

Emory and Henry College
BA Economics & Business, Communications 1991

Post Graduate Training in Science
Virginia Intermont College 1998-2000
Microbiology
General Chemistry
Organic Chemistry
General Physics
Anatomy and Physiology

Class A CDL Driver with Hazardous Materials Endorsement
OSHA 1910.120
Hazwoper 40
Hazwoper Annual Refresher

DOT 172
Homeland Security Training
Respiratory Protection Certified
EEI Lab Pack Chemist Training Program
Lift Truck Training
Bloodborne Pathogen Training
American Heart Association
CPR certified
Advanced Life Support

Work History
2017 – Present – Environmental Enterprises Incorporated
2015 – 2017 – Med Flight Paramedic – Clinical Paramedic Mountain States Health Alliance
2012 – 2015 – Environmental Enterprises Incorporated
Projects

**Lab Packing Services** - Various confidential clients – Lab Packing includes sorting different chemical components into hazard classes and placing in DOT compliant packaging for shipment to EEI’s de-packaging and disposal facility. Containers vary from a few grams, up to five-gallon buckets and are placed in five to fifty-five-gallon drums with absorbent material for shipping. All DOT and EPA paperwork and reporting is supplied by EEI. Manifests, Labels, Land Disposal Restriction Certification Statements, DOT labels and placards are provided by EEI. Specific container complete inventory sheets are required for each item on all projects. Mr. Moore has completed well over 1,000 individual lab packing events during his tenure at EEI.

**Facility Closures** – Thad has participated in several plant and facility closures. These projects involve gathering maintenance, repair and operating chemicals and often raw materials and ingredients from closed or closing operations. Very similar to lab packing, the items are identified and sorted by hazard class, profiled and labeled for shipment and upon approval picked up for shipment to the disposal facility. Container sizes range from 300-gallon portable tanks down to lab pack quantities.

**DEA Clandestine Drug Lab Disposal** – Responding to local law enforcements disposal needs involves identification, sorting, packaging and often neutralizing items such as elemental lithium. The material is again treated as a lab pack and sent for disposal. These jobs are often after hours and treated as emergency response.

**Hospital Waste Disposal** - Thad participates in hospital waste disposal of RCRA related items such as xylene, alcohols, nitroglycerine and other EPA and DOT regulated materials.
Joseph Atkins  
Manager of VA Operations/Lead Chemist

Education / Training:
- B.S. Biology, Emory and Henry College, Emory Va. 1989
- OSHA 40-Hour HAZWOPER Training
- OSHA 8-hour HAZWOPER Refresher Training
- Blood Borne Pathogens Training
- Contingency Plan Training
- Virginia Dept. of Emergency Svc. Incident Cmd.
- Homeland Security/FBI improvised explosives ID
- Confined Space Entry Overview Training
- Medical Surveillance Program Training
- Powered Industrial Trucks Training
- Respiratory Protection Training
- Personal Protective Equipment Training
- DOT Regulatory Update HM-215-E Training
- DOT Security HM-232 Training
- Respiratory Fit Testing Training
- HR Management Practices Training
- Red Cross CPR Training
- Hazardous Communications Standard Training
- Chemical Identification and Lab Pack Training
- MSHA Mine safety Awareness.
- DOT Class B Haz-Mat Driver
- VA Class B Contractor

Summary:
Virginia Operations Manager for over 8 years
Responsibilities/Duties/Experience includes:
- Consulting with customers with chemical direction, description and pricing
- Procurement of project both private and governmental.
- Segregate, package, and manifest chemicals for transportation
- Identify and test unknown chemicals
- Supervise lab pack and HHW projects

Employment History:
2004-Present
**Virginia Operations Manager. Environmental Enterprises, Inc., Marion, VA**

1998-2004
**Virginia MRF Manager. MXI Environmental Services, Abingdon, VA**

1992-1998
**Hazardous Waste Mgr/LP services chemist. Environmental Monitoring inc. Coeburn VA,**

1989-1992
**Senior Field Chemist, Laidlaw Environmental Services, Reidsville, NC.**
EDUCATION

- Bachelor of Science in Chemistry, East Tennessee State University, 1980
- Minor in Biology with Environmental Emphasis

CERTIFICATIONS

- VW&R Certified HAZWOPER Instructor
- DEA Certified Methamphetamine Laboratory Technician
- VW&R Certified Chlorine Safety Instructor
- Norfolk Southern Railroad Rail safe Certified Site Worker

TRAINING

- OSHA 40-Hour HAZWOPER Training
- OSHA 8-Hour HAZWOPER Refresher Training
- Abbottsfield Confined Space Entry, Fall Protection
- Abbottsfield Construction Safety, Lock Out Tag Out
- Chlorine Institute Safety Training – 16 Hr Course
- Indian Springs Chlorine Emergency Kits A, B & C Course
- Norfolk Southern Railroad Tank Car Class
- Hazard Communication Training & Instructor

AFFILIATIONS

- Eastman Chemical Company Contractor Safety Partnership
- Weyerhaeuser Pulp and Paper Contractor Safety Program

PROFILE

Mr. Helms has over 23 years direct experience in solid and hazardous waste management. Disposal, emergency response, remediation and industrial services in situations with the potential for significant environmental impact are all part of the work history that he brings to the industry. He is familiar with the remedial and waste handling process, including, identification, profiling, manifesting and shipping of hazardous wastes.

EXPERIENCE

Mr. Helms has participated in hundreds of environmentally related projects. One project consisted of using recently removed UST’s, cleaned and adapted as AST’s for agents to treat mine drainage. These units increased from 0 in 1982 to over 48 in 1985. He participated in the cleanup of the largest coal slurry spill in history in Martin County Kentucky. After a trial period, his idea to use lagoon pumps to remove slurry from stream beds was incorporated into the final remedial plan.

He also participated in one of the largest PCB remedial projects in Southwest Virginia. This 600 ton project at a remote mine site involved road construction, staging OTR tractors two miles away and moving trailers to the site with a four wheel drive unit and bull dozer over mine haul roads. Mr. Helms was responsible for all health, safety and contingency plans, vehicle scheduling and the complete disposal process.

Mr. Helms has responded to several Class 1 Railroad incidents, including a 12,000 gallon U listed waste spill, ground water multiphase extraction projects, oil water separator cleaning and the complete upgrade of a DAF treatment system from 75 KGD to .5 MGD. As project manager and construction superintendent, he was responsible for complete demolition and reconstruction of the facility. Thirty rail cars of oily soil and 25 roll off boxes of asbestos, PCB materials and other waste was removed from the site. Mr. Helms operated a bypass plant for half of the project and the new plant for three months during the final phase of construction.

Two other projects are illustrative of Mr. Helms’ experience. An idle fiber manufacturing facility being converted to building materials production required removal of six truckloads of spent and commodity chemicals. Mr. Helms segregated the products, identified over fifty unknowns and provided transportation and disposal services. The Patton Store, the second oldest building in Kingsport, TN, was being examined for donation to the historical society when the heirs of the owner discovered that he had operated a chrome plating operation. This required identifying 48 vats and drums. Mr. Helms sampled, segregated, packaged and shipped twenty eight thousand pounds of hazardous wastes. After removal of the wastes the plating area was decontaminated and returned to a state suitable for re-use.
Attachment 4

Treatment Area
Attachment 5
Treatment Procedures

1. Upon arrival on site, EEI personnel will introduce themselves and request a brief tour of the work area to inspect the product and evaluate the work site provided. They will locate the safety equipment such as safety shower, eyewash and any spill kit or containment area. An evacuation plan route is also requested.

2. Due to the recent purchase of the material and its expiration date, it is expected that no unusual circumstances that would have led to increased likelihood of accelerated decomposition have occurred. Any situation that could result in abnormal conditions must be reported, such as, storage outside or in sunlight or higher than indoor air-conditioned ambient temperature conditions, should be reported.

3. The technician will inspect the individual container to verify that it is the specified product and quantity as detailed in the photograph. They will also look closely for any evidence of condensation, particles or other residue on the cap or bottle and associated coverings or threads.

4. The purchase date, opening date and expiration date of 1-31-2021 will be confirmed.

5. The quantity of less than two liters of material will be confirmed.

6. The product container will then be moved to the treatment area identified in Attachment 4.

7. The lid will be removed and one liter of a 50% ferric sulfate solution (10% Fe$^{3+}$) will be introduced to the waste solvent.

8. The material will be gently stirred and observed for any unexpected reaction.

9. The container will then be placed in the client’s normal less than 90 day waste storage area to await transport offsite for disposal.