

Via Certified Mail: 7008 1300 0001 7862 8476

August 23, 2013

Mr. Vojin Janjic, Manager, Water-based Systems
Tennessee Department of Environment and Conservation
Division of Water Resources
401 Church Street
L&C Annex 6th Floor
Nashville, TN 37243

TN DEPT OF ENVIRONMENT
AND CONSERVATION

AUG 29 2013

DIV OF WATER RESOURCES
RECEIVED

RE: NPDES Permit No. TN0040606
Additional Information for Completing Application

Dear Mr. Janjic,

In reply to your letter of July 2, 2013, we reviewed Discharge Monitoring Report (DMR) data for each of the four outfalls at the Memphis facility. Some of the phosphorous results at each outfall were above the reference data (0.10 mg/L) used for goal setting for the ecoregion (74b) in the division's publication Development of Regionally-Based Interpretations of Tennessee's Narrative Nutrient Criterion.

Phosphorous results are provided below based on six sampling events from 2/1/2010 – 7/31/2013:

Outfall SW1 – Located in a primarily paved area.

Monitoring Period	Sample Date	Phosphorous (mg/L)
2/1/2013 – 7/31/2013	7/31/2013	0.288
8/1/2012 – 1/31/2013	1/9/2013	0.129
2/1/2012 – 7/31/2012	5/31/2012	0.05
8/1/2011 – 1/31/2012	10/12/2011	0.309
2/1/2011 – 7/31/2011	7/8/2011	0.065
8/1/2010 – 1/31/2011	1/10/2011	0.072
2/1/2010 – 7/31/2010	7/12/2010	0.05

Outfall SW2 – Located in a primarily paved area.

Monitoring Period	Sample Date	Phosphorous (mg/L)
2/1/2013 – 7/31/2013	7/31/2013	0.174
8/1/2012 – 1/31/2013	1/9/2013	0.051
2/1/2012 – 7/31/2012	5/31/2012	0.142
8/1/2011 – 1/31/2012	10/12/2011	0.096
2/1/2011 – 7/31/2011	7/8/2011	0.286
8/1/2010 – 1/31/2011	1/10/2011	0.118
2/1/2010 – 7/31/2010	7/12/2010	0.052

Outfall SW3 – Located in an area with ornamental shrubs and trees.

Monitoring Period	Sample Date	Phosphorous (mg/L)
2/1/2013 – 7/31/2013	7/31/2013	No data
8/1/2012 – 1/31/2013	1/9/2013	0.148
2/1/2012 – 7/31/2012	5/31/2012	0.086
8/1/2011 – 1/31/2012	10/12/2011	0.242
2/1/2011 – 7/31/2011	7/8/2011	0.266
8/1/2010 – 1/31/2011	1/10/2011	0.183
2/1/2010 – 7/31/2010	7/12/2010	0.089

Outfall SW4 – Located in a large grassy area.

Monitoring Period	Sample Date	Phosphorous (mg/L)
2/1/2013 – 7/31/2013	7/31/2013	0.348
8/1/2012 – 1/31/2013	1/9/2013	0.427
2/1/2012 – 7/31/2012	5/31/2012	0.861
8/1/2011 – 1/31/2012	10/12/2011	2.94 – permit exceedance
2/1/2011 – 7/31/2011	7/8/2011	0.51
8/1/2010 – 1/31/2011	1/10/2011	0.167
2/1/2010 – 7/31/2010	7/12/2010	0.243

The current ND PES permit limit for phosphorous is 2.0 mg/L. During the six sampling events provided for the permit plus the most recent sampling event on 7/31/2013, Buckman exceeded its permit limit for phosphorous one time at one outfall (10/12/2011 at SW4).

Buckman does process phosphorous based chemicals at the Memphis facility; however all chemical processing areas are within containment and drain to a POTW. Therefore, chemical handling/processing is not expected to be a source for phosphorous in storm water discharges, hence the comment that phosphorous compounds are not expected to be present in the facility's storm water discharges.

The facility is treated for lawn and weed control using a variety of retail herbicides and fertilizers. We investigated the different weed and lawn treatment chemicals used. One of these, LESCO's Prosecutor herbicide (MSDS attached), is a phosphorous based compound and could be the source of phosphorous in the storm water discharges. Outfalls SW3 and SW4 have more frequent instances of phosphorous levels greater than 0.10 mg/l. These outfalls are located in areas where there is either ornamental vegetation or grassy areas. Outfalls SW1 and SW2 are in primarily paved areas; however, there are areas that are treated for weed control that drain to these outfalls.

The use of this herbicide and other lawn treatment chemicals could also be a source of nitrogen in storm water discharges. There have been three occasions where the total nitrogen permit limit was exceeded: 6/4/2009 (SW4), 5/31/2012 (SW2), and 7/31/2013 (SW4).

The facility has also had exceedances of the permit limit for zinc. Buckman does not manufacture or process zinc containing chemicals. There are some zinc containing chemicals that are stored inside a warehouse which drains to SW1. There have been no reported spills or leaks of zinc containing chemicals while in warehouse storage. The facility does have galvanized roofing. Additionally, there is an industrial sandblasting operation located across the street. In 2009, Buckman collected storm water near the SW1 outfall by placing sample containers next to the outfall and at the downspout of the

warehouse. Both samples tested above the permit limit for zinc. Therefore, it was concluded the source was airborne or possibly coming from galvanized roofing. The report is attached for your reference.

I hope this addresses the Division's concerns and provides enough information to complete the application for renewal. Please don't hesitate to call me at (901) 272-6717 should you have further questions.

Sincerely,

BUCKMAN LABORATORIES, INC.

A handwritten signature in black ink, appearing to read "Andrew C. Fondaw". The signature is fluid and cursive, with a long horizontal stroke at the end.

Andrew C. Fondaw
Director, S/H/E Stewardship

Cc: Ms. Maylynne Wilbert
TDEC – Memphis

LESCO Prosecutor

#4045

15885 Sprague Road, Strongsville, OH 44136-1799

Emergency Phone: LESCO: (800) 321-5325

CHEMTREC: (800) 424-9300

DATE ISSUED: 11/15/00

SUPERSEDES: 01/12/00

I. PRODUCT IDENTIFICATION

Product: LESCO Prosecutor

Chemical Name/Synonyms: Glyphosate

Chemical Family: Herbicide

II. PRODUCT INFORMATION: INGREDIENTS

Chemical Name	% (by wt.)	CAS#
Glyphosate, N-(phosphonomethyl)	41	38641-94-0 (salt)
glycine, in the form of its isopropylamine salt		(1071-83-6 acid)
Ethoxylated Tallowamines*	58	61791-83-6

*Hazardous chemical under the criteria of the OSHA Hazard Communication Standard (29 CFR Part 1910.1200)

III. PHYSICAL AND CHEMICAL CHARACTERISTICS

Specific Gravity (water=1): 1.16 @20°C

Appearance and Odor: Clear, viscous greenish/yellow solution/Odorless.

pH: 4.84 (1% solution)

NOTE: These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.

IV. FIRE AND EXPLOSION HAZARD DATA

Flash Point (method Used): NA (non combustible)

Auto Ignition Temperature: NA

Hazardous Products of Combustion: CO₂, CO, NO_x

NFPA/HMIS RATING:

HEALTH 1

FIRE 1

REACTIVITY 0

Extinguishing Media:

 Foam Alcohol Foam Dry Chemical Water Spray Other CO₂

Fighting Procedures: Fire fighters and others exposed to products of combustion should wear self-contained breathing apparatus. Equipment should be thoroughly decontaminated after use.

Unusual Fire and Explosion Hazards: None

V. HEALTH HAZARDS

Likely Routes of Exposure: Skin contact and inhalation.

Eye Contact: This product may cause pain, redness and tearing based on toxicity studies.

Skin Contact: This product is no more than slightly toxic and no more than slightly irritating based on toxicity studies.

Ingestion: This product is no more than slightly toxic based on toxicity studies. No significant adverse health effects are expected to develop if only small amounts (less than a mouthful) are swallowed. Ingestion of similar formulations has been reported to produce gastrointestinal discomfort with irritation of the mouth, nausea, vomiting and diarrhea. Oral ingestion of large quantities of one similar product has been reported to result in hypotension and lung edema.

Inhalation: This product is no more than slightly toxic if inhaled based on toxicity studies.

Medical Conditions Aggravated by Exposure: None Known.

First-Aid Procedures

If in Eyes: Flush eyes with plenty of water. Call a physician if irritation persists.

If on Skin: Wash thoroughly with soap and water.

If Inhaled: Remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention.

If Swallowed: This product will cause gastrointestinal tract irritation. Immediately dilute by swallowing water

or milk. Get medical attention. DO NOT GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

Information:Oral LD₅₀ (acute rat): >5,000 mg/kgDermal LD₅₀ (acute rabbit): >5,000 mg/kgInhalation LC₅₀: (rat 4-hr) >2.05 mg/L

Eye Irritation: (rabbits) Moderately irritating (including transient corneal opacity) to unriused eyes. Mildly irritating to rinsed eyes. Unriused eyes cleared by day 7 and rinsed eyes cleared by 72 hours.

Skin Irritation: (rabbits, 4-hr) Slightly irritating. Cleared in all animals within 72 hours. No allergy was observed in guinea pigs following repeated skin exposure.

VI. REACTIVITY**Stability:** Stable Unstable

Materials to Avoid: Acids and bases.

Hazardous Decomposition Products: None.

Hazardous Polymerization: Will not occur Will occur**VII. SPILL, LEAK, AND DISPOSAL PROCEDURES**

If material is spilled: Contain large spills with dikes and transfer the material to appropriate containers for reclamation or disposal. Absorb remaining material or small spills with an inert material and then place in a chemical waste container. Flush residual spill area with water.

Waste Disposal Method: Dispose according to Federal EPA procedures as outlined in the Resource Conservation Recovery Act (RCRA) and follow state and local guidelines. Be sure that containers are completely empty before disposal.

VIII. SPECIAL PROTECTION INFORMATION**Personal Protective Equipment:**

Eye Protection: Based on usage conditions, consider wearing chemical splash goggles during mixing/pouring operations or other activities in which eye contact with undiluted product is likely to occur. Protective eyewear in not mandatory for mixing, pouring, application or other use of this product in accordance with label directions.

Skin Protection: Wear appropriate protective clothing to prevent skin contact. Applicators and other handlers must wear long-sleeved shirt, longpants, shoes plus socks and protective eyewear. Follow manufacturers' instructions for cleaning/maintaining PPE. Wash PPE separately from other laundry.

Respiratory Protection: If there is an accidental discharge of the material during manufacture or handling that produces a heavy vapor or mist, workers should use NIOSH/MSHA approved equipment. In work situations where an air purifying respirator is appropriate to be used, use of a full face respirator equipped with purifying elements for protection against organic vapor and dust/mist approved for pesticides is recommended.

IX. STORAGE AND HANDLING

Precautions: Store in a cool, dry place if possible. Separate from pesticides, seed, feed, foodstuffs, and away from drains, sewers, and water sources. Do not eat, drink or smoke while handling this product.

Avoid contact with eyes, skin, or clothing. Avoid breathing spray mist. Wash thoroughly with soap and water after handling. Remove clothing immediately if pesticide gets inside. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters. Observe all labeled safeguards until container is cleaned, reconditioned, or destroyed. DO NOT REUSE THIS CONTAINER.

DO NOT MIX, STORE, OR APPLY THIS PRODUCT IN GALVANIZED OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS. This product or spray solutions of this product react with such containers and tanks to produce hydrogen gas that may form a highly combustible gas mixture. This gas mixture could flash or explode,

causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

Other Precautions: Keep out of reach of children. Practice good care and good safety precautions when handling this product. Avoid contact with eye, skin and clothing.

Avoid breathing dust. Do not swallow. Wash thoroughly after handling.

X. ECOLOGICAL INFORMATION:

This product has been shown to be slightly to moderately toxic in aquatic studies:

Rainbow Trout 96-hr LC₅₀: 22 mg/L (static)Rainbow Trout 96-hr LC₅₀: 8.2 mg/L (dynamic)Daphnia Magna 48-hr LC₅₀: 37 mg/L (aeration)Daphnia Magna 48-hr LC₅₀: 24 mg/L (w/o aeration)

This product has been shown to be practically non-toxic to avian species following subacute dietary exposure.

Bobwhite Quail 8-day LC₅₀: >6300 ppmMallard Duck 8-day LC₅₀: >6300 ppm**XI. FEDERAL REGULATORY INFORMATION:**

SARA TITLE III, SEC. 311/312 HAZARD CATEGORIES

Y Immediate (Acute) Health

N Delayed (Chronic) Health

N Fire

N Sudden release of Pressure

N Reactivity

SEC 302: NA

SEC 304: NA

SEC 313: NA

CERCLA 102: NA

CAA RC: NA

EPA Reg. No.: 228-366-10404

DOT Hazardous Materials Shipping Name: Not Regulated.

Freight Classification: Weed killing compound, NOIBN

NA = Not applicable

ND = Not Determined

Preparation and distribution of this Material Safety Data Sheet done by LESCO, Inc., 15885 Sprague Road, Strongsville, OH 44136-1799, pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200)

The information contained herein is based on available data. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof; and you should make your own investigation to determine safety for the use you contemplate. LESCO, Inc. makes no warranty of merchantability of fitness for a particular use, nor is there any other express or implied warranty except as may be specifically provided otherwise on product.

LESCO, Inc. assumes no responsibility or liability for any incidental or consequential damages whether related to personal injury or property damage, to vendees, users or third parties, caused by the material; and LESCO, Inc.'s responsibility is limited to replacement of, or repayment of, the purchase price for the material(s) with respect to which any damages are claimed. All vendees or users assume all risk associated with the use of the material(s).

For further information, contact: LESCO, Inc., • 15885 Sprague Road • Strongsville, OH 44136-1799 or (800) 321-5325.

BUCKMAN LABORATORIES, INC.

1256 NORTH McLEAN BLVD.
MEMPHIS, TN 38108-1241 U.S.A.
TELEPHONE (901) 278-0330
FAX (901) 276-5343
www.buckman.com
e-mail: knetix@buckman.com

Via Certified Mail
7008 1830 0000 7214 6713

October 2, 2009

Ms. Maylynne Pynkala
TDEC, Division of Water Pollution Control
2510 Mt. Moriah Road, Suite E-645
Memphis, TN 38115-1520

RE: NPDES TN0040606
Investigation of Exceedances at Outfalls SW1 and SW4

Dear Ms. Pynkala:

The last Discharge Monitoring Report submitted August 12, 2009, included analytical results for new parameters under Buckman's recently renewed NPDES permit. The maximum allowable level for zinc was exceeded at SW1 and the maximum allowable level for total nitrogen was exceeded at SW4. The purpose of this letter is to document Buckman's efforts to determine potential causes of the elevated results.

An investigation has been completed for zinc at SW1 by capturing stormwater prior to contact with the pavement to determine if the possible source of zinc is airborne. Two collection receptacles were placed near the SW1 outfall. One sample, identified as SW1, was placed next to the outfall and the other receptacle, identified as WHSE, was placed at a downspout to a warehouse located near the SW1 outfall. Both samples tested above permit limits for zinc (analytical data are attached). Therefore, it was concluded the high level of zinc at SW1 is airborne or possibly coming from a galvanized roof on a warehouse near the outfall. It is important to note that there is a sandblasting operation directly across the street from this outfall.

An investigation has been completed to determine the source of elevated nitrogen levels at SW4. This outfall is located in a grassy area away from chemical processing areas. It is believed that the elevated nitrogen levels could be due to lawn service treatments in that area.

We will continue to monitor both of these outfalls at the next sampling period and report our findings as part of the next Discharge Monitoring Report. Should you have any questions or require additional information, please contact me at 901-272-6717.

Sincerely,
BUCKMAN LABORATORIES, INC.



Jody L. Stobbe
Regulatory Compliance Manager



ENVIRONMENTAL TESTING & CONSULTING, INC.

2790 Whitten Road

Memphis, Tennessee 38133

(901) 213-2400

Fax (901) 213-2440

"A Laboratory Management Partner"

9/14/2009

Buckman Laboratories
Mr. Andrew Fondaw
1256 North McLean
Memphis, TN, 38108

Ref: Analytical Testing
Report Number: 09-253-0297
Project Description: Analytical Testing

Dear Mr. Andrew Fondaw:

Environmental Testing and Consulting, Inc. received 2 sample(s) on 9/10/2009 for the analyses presented in the following report.

The above referenced project has been analyzed per your instructions. The analyses were performed in our laboratory in accordance with Standard Methods, The Solid Waste Manual SW-846, EPA Methods for Chemical Analysis of Water and Wastes and /or 40 CFR part 136.

The EPA requires that water samples analyzed for pH, dissolved oxygen and total residual chlorine be analyzed in the field. Analyses and results reported which do not indicate "Field" for these parameters were analyzed outside the holding time as specified in Table II of 40 CFR Part 136.3.

The analytical data has been validated using standard quality control measures performed as required by the analytical method. Quality Assurance, instrumentation maintenance and calibration were performed in accordance with guidelines established by the USEPA and NELAP.

The results are shown on the attached analysis sheet(s).

Please do not hesitate to contact me or client services if you have any questions or need additional information.

Sincerely,

Randy Thomas
Project Manager

Alabama	#40750
Arkansas	#88-0650
Illinois	#200015
Kentucky	#90047
Kentucky UST	#41

Louisiana	#04015
Mississippi	
Oklahoma	#9311
Tennessee	#02027
Virginia	#00106

Florida	#E87943
Pennsylvania	#68-3195
USDA	#S-46279
EPA	#TN00012
NELAP	#100456

California	#05240CA
Texas	#T104704180-05-TX





ENVIRONMENTAL TESTING & CONSULTING, INC.

2790 Whitten Road Memphis, Tennessee 38133 (901) 213-2400 Fax (901) 213-2440
"A Laboratory Management Partner"

28046
Buckman Laboratories
Mr. Andrew Fondaw
1256 North McLean
Memphis, TN 38108

Project ID :
Description : Analytical Testing

Report Date : 9/14/2009

Report Number : 09-253-0297

REPORT OF ANALYSIS

Received : 9/10/2009

Lab No : 79466
Sample ID : Stormwater-WHSE

Matrix: Aqueous
Sampled: 9/10/2009 11:00

Test	Results	Units	ML	DF	Date / Time Analyzed	By	Analytical Method
Total Zinc	1.03	mg/L	0.010	1	09/11/09 19:28	NP	EPA-200.7

Lab No : 79467
Sample ID : Stormwater-SW1

Matrix: Aqueous
Sampled: 9/10/2009 11:00

Test	Results	Units	ML	DF	Date / Time Analyzed	By	Analytical Method
Total Zinc	0.396	mg/L	0.010	1	09/11/09 19:35	NP	EPA-200.7

Qualifiers/ Definitions

DF Dilution Factor

ML Method Quantitation Limit



Cooler Receipt Form

Customer Number: 28046
Customer Name: Buckman Laboratories
Report Number: 09-253-0297

Shipping Method

Shipping Method options: FedEx, UPS, US Postal, Client, LMP (selected), Courier, Other: []

- Shipping container/cooler uncompromised? [X] Yes [] No [] Not Present
Custody seals intact on shipping container/cooler? [] Yes [] No [X] Not Required
Custody seals intact on sample bottles? [] Yes [] No [X] Not Required
Chain of Custody present? [X] Yes [] No
COC agrees with sample labels? [X] Yes [] No
Samples in proper containers? [X] Yes [] No
Sample containers intact? [X] Yes [] No
Sufficient sample volume for indicated tests? [X] Yes [] No
All samples received within holding time? [X] Yes [] No
Container temperature in compliance? [X] Yes [] No
Water - VOA vials free of headspace? [] Yes [] No [X] N/A
Water - Preservation acceptable upon receipt? [X] Yes [] No [] N/A
Samples screened for radioactivity (COE only)? [] Yes [] No [X] N/A
Special precautions or instructions included? [] Yes [X] No

Comments: []

Any regulatory non-compliance issues will be recorded on non-compliance report.

Signature: Brooke Shoup

Date & Time: 09/10/2009 15:30:00

09-253-0297
28046
Sent: 10/20/09
3:59PM
Buckman Laboratories
Analytical Testing

Phone #

272-6717

Client Project Manager/Contact

Jody Stobbe

Project/Site Location

1256 N. McLean Blvd.

email Address

jlstobbe@buckman.com

Project Number

FID #

Purchase Order Number

Method of Shipment

Type of Event

Single Daily Weekly Monthly Quarterly Semi-Annual

courier

NPDES
 Wastewater
 UST
 Other Program

RUSH - Additional charges apply.
 The following require a Statement of Work
 Special Report Requirements
 Special Detection Limit(s)
 Special Method Requirements

Environmental Testing & Consulting, Inc.
2790 Whitten Road
Memphis, TN 38133
(901) 213-2400 (phone)
(901) 213-2440 (fax)
www.etcmemphis.com



Required Analysis:

Date	Time	Sample Identification	Number of Containers	Matrix	(G)rab or (C)omposite
9/10/09	11:00am	Stormwater - WHSE	1		G
9/10/09	11:00am	Stormwater - SW1	1		G

Matrix

WW - Wastewater GW - Groundwater DW - Drinking Water, S-Soil O-Oil L-Non aqueous liquid
Other: Stormwater

Sampled by (Name/Affiliation): (Print):

Jody L. Stobbe
Regulatory Compliance

Relinquished by: (SIGNATURE)

Jody L. Stobbe

Date Time

9/10/09 11:15 AM

Received by: (SIGNATURE)

Don Bud

Date Time

9-10-09 1407

Relinquished by: (SIGNATURE)

Don Bud

Date Time

9-10-09 1800

For Laboratory Use Only

Lab Comments

Ice

Cooler Temp

Y / N

AK

Relinquished by: (SIGNATURE)

Don Bud

Date Time

9/10/09 1435

Relinquished by: (SIGNATURE)

Don Bud

Date Time

9-10-09 1800