AEP
AMERICAN®
ELECTRIC
POWER

American Electric Power
1201 Elm Street, Suite 800
Dallas, TX 75270
AEP.com

February 14, 2013

Certified Mail—Return Receipt Requested 7011 3500 0000 0199 2695

Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118-5317
Attn: Mr. Shane Byrum, NPDES Branch, Permits Division

RE: Request for replacement and authorization for a water treatment chemical
American Electric Power (AEP), dba Southwestern Electric Power Company (SWEPCO)
Turk Power Plant, Hempstead County, AR, Wastewater Permit No.AR0051136

Dear Mr. Byrum,

Turk Power Plant anticipates the need to replace one of its water treatment chemicals in the facility's water treatment system in order to ensure proper operation and maintenance. As such, the Reverse Osmosis (RO) membrane cleaner "AvistaClean P611" is being proposed to replace the GE chemical "RoClean L211" that was previously approved by ADEQ for use in the facility's RO system.

The facility has conducted testing on the RO membranes and determined that the RoClean P211 product is not sufficiently cleaning organic material off of the RO system membranes during the cleaning phase of operations. Laboratory testing has demonstrated that the AvistaClean P611 product should do a better job of cleaning the affected membranes.

I have attached a hard-copy of the MSDS information for the proposed new AvistaClean P611 product. The MSDS contains aquatic toxicological information in the "Ecological Information" section for the product (page seven). In accordance with Item No.14 on page 3 of Part II of the Draft wastewater Permit for the facility, AEP hereby certifies that the proposed new treatment chemical does not contain any of the priority pollutants listed in Appendix A of Part 423 (40 CFR Part 423).

The following is an engineering calculation to demonstrate what the anticipated concentration of the new product may be at the point of discharge via Outfall 001 (note that the calculation does not take into account consumption and/or degredation of the product). The approximate feed rate for the product will be at the same rate that the old RoClean L211 product was administered-at 20,000 ppm (during the cleaning cycle for the RO only). This will result in an anticipated net discharge concentration concentration of 0.99 ppm at Outfall 001 (discharge from wastewater pond after commingling-assumes no consumption and/or degredation of the product). This calculation takes into account various volumes of wastewater that the product will commingle with after the point of application and up to the point of discharge.

Please note that this product may be toxic to certain aquatic life, however, that is also its site-specific (RO membrane cleaner) intended use at the facility. The use of this product will be limited to the cleaning cycles within the treatment system membranes for the RO. The actual

subsequent "discharge concentration" for this product will be extremely small comparatively since the effluent from this system is subsequently commingled with other low volume wastes prior to additional treatment and/or commingling in the facility's wastewater pond prior to discharge via Outfall 001 (into the Little River). Please also note that the natural organic content of the water that will already be contained in the wastewater Pond may also substantially consume and/or degrade the majority (if not all) of any residual concentrations of the proposed treatment chemical, however, this fact has not been given any consideration as part of the example engineering discharge calculation.

In consideration of the relatively large dilution series for the receiving stream (Little River), the actual concentration of the proposed product discharged at Outfall 001 is anticipated to be undetectable. This assumes additional consumption and/or degradation of the product in the Wastewater Pond, and is inclusive of the combination of the effluent with the receiving water. As such, the actual discharge concentration of the proposed product is anticipated to be more than one order of magnitude less than the engineering calculation provided above for the anticipated concentration of the product in the discharge at Outfall 001. In consideration of this information, the facility does not anticipate the potential discharge of this product to cause toxicity to or impair aquatic life in the receiving stream.

In summary, the engineering calculation is essentially a "worst-case" projection, and does not take into consideration the propensity of the product to be consumed (as is intended), degrade, and/or otherwise dissipate via subsequent commingling. As such, AEP hereby requests ADEQ's approval to use the aforementioned product based on the facts provided in the MSDS for the product and the information provided in this letter.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Please feel free to contact Frank Mills of my staff at (214) 777-1507 if you have any questions. Thank you for your consideration with respect to this request.

Sincerely,

Bruce W Moore

Bruce Moore, Manager
Water & Ecological Resource Services
American Electric Power

Enclosure

C: Tim Gross (W/)
Dustin Williams (W/O)
Leah Pearson (W/O)
Chris Johnson (W/O)
Emily McCord (W/O)
File TRK.180.10.20.2013 (W/)

avista technologies

AvistaClean® P611
SAFETY DATA SHEET

1. IDENTIFICATION

1.1	Identification – Product Name:	**AvistaClean® P611**
1.2	Other means of identification Synonym:	Alkaline salt mixture Mixture, none
1.3	Recommended Use Of The Chemical And Restrictions On Use:	Reverse osmosis membrane alkaline cleaner Use only as directed on the label.
1.4	Name, Address, And Telephone Number Of The Manufacturer, Or Other Responsible Party:	**AVISTA TECHNOLOGIES** 140 Bosstick Street San Marcos, CA 92069 (760) 744-0536
1.5	Competent Person email address 24 Hour Emergency No.:	klindsey@avistatech.com 1-800-424-9300 (United States) 1-202-483-7616 (International Collect)

NSF

Certified by NSF International as a drinking water treatment chemical under ANSI/NSF Standard 60 for use off-line in reverse osmosis systems.

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: This product is a white, crystalline free-flowing powder with no discernible odor. This product is neither reactive nor flammable. It may increase the intensity of a fire. Emergency responders must wear personal protective equipment and have appropriate fire-extinguishing protection) suitable for the situation to which they are responding.

Physical Hazards Summary	Oxidizer, Irritant
Potential Health Hazards Summary	Acute skin/eye toxic Acute Toxicity Dusts and Mists May be harmful if inhaled
Potential Ecological Effects Summary	None

2.1 Classification of Product

U.S. OSHA classification	Skin, eye irritant
Classification as per EC 1272/2008 (CLP/GHS)	Acute Toxicity Dusts and Mists, Cat 5 Xi R22: Harmful if swallowed. R36/38: Irritating to eyes and skin.
WHMIS classification	C: Oxidizer

D2B - Poisonous and infectious material - Other effects – Toxic

Hazardous Materials Information System (HMIS) Rating

Health	**1**
Flammability	**0**
Physical Hazard	**1**
Protective Equipment	**c**

2.2 Signal Word — WARNING!

Hazard statements

GHS: H302 Harmful if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H272 May intensify fire; oxidizer.
CLP: R22: Harmful if swallowed.
R36/38: Irritating to eyes and skin.
R8: Contact with combustible material may cause fire.

Precautionary statements

Keep away from heat.
Wear protective gloves and eye & face protection
Take any precaution to avoid mixing with combustibles
Use only in a well-ventilated area.
Use personal protective equipment as required.
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
IF ON SKIN: Wash with plenty of soap and water.
If eye irritation persists: Get medical advice/attention.
Store in a closed container.

Hazard pictograms

2.3 Unclassified Hazards — None

2.4 Ingredients with unknown acute toxicity — None

3. COMPOSITION and INFORMATION ON INGREDIENTS

Chemical name **CAS #** **EINECS #**	**% w/w**	**US OSHA**	**GHS/EU CLP**	**WHMIS**
Sodium carbonate	60 -75	Irritant	GHS: Eye Irritant Cat 2 CLP: Xi - irritant	D2B - Poisonous and infectious material - Other effects – Toxic
Sodium percarbonate	20-30	Oxidizer, Irritant	GHS: Acute Tox. 4 H302 Harmful if swallowed. Skin Irrit. 2 H315 Causes skin irritation. Eye Irrit. 2 H319 Causes serious eye irritation. H272 May intensify fire;	C: Oxidizer D2B - Poisonous and infectious material - Other effects – Toxic

			oxidiser. CLP: R22: Harmful if swallowed. R36/38: Irritating to eyes and skin. R8: Contact with combustible material may cause fire.	
Chelate Compound	5-10	Irritant	GHS: Acute Toxicity Oral, Cat 5 May be harmful if swallowed Acute Toxicity Dermal, Cat 5, May be harmful in contact with skin	D2B - Poisonous and infectious material - Other effects – Toxic
Organic acid sodium salt	<5	Irritant	GHS: STOT SE 3 (H335) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) CLP: Xi; R36/37/38	D2B - Poisonous and infectious material - Other effects – Toxic
Glycol wetting agent	<5	N/A	Not Classified	D2B - Poisonous and infectious material - Other effects – Toxic
Water or other chemicals do not contribute to any additional hazards of this product	balance	N/A	N/A	N/A
PRODUCT	100	Oxidizer, irritant	GHS: Acute Toxicity Dusts and Mists May be harmful if inhaled	C: Oxidizer D2B - Poisonous and infectious material - Other effects – Toxic

See Section 16 for Definitions of Terms Used.

4. FIRST-AID MEASURES

4.1 Description of Necessary Measures

Skin exposure: If this product contaminates the skin, immediately begin decontamination with running water. Remove exposed or contaminated clothing, taking care not to contaminate eyes. Victim should seek immediate medical attention if any adverse exposure symptoms develop.

Eye exposure: If this product enters the eyes, open victim's eyes while under gently running water. Use sufficient force to open eyelids. Have victim "roll" eyes. Minimum flushing is for 15 minutes. Victim must seek medical attention.

Inhalation: If dusts, vapors, mists, or sprays of this product are inhaled, remove victim to fresh air. If necessary, use artificial respiration to support vital functions. Remove or cover gross contamination to avoid exposure to rescuers.

Ingestion: If this product is swallowed, CALL PHYSICIAN OR POISON CONTROL CENTER FOR MOST CURRENT INFORMATION. DO NOT INDUCE VOMITING. Have victim rinse mouth with water, if conscious. Never induce vomiting or give a diluent (e.g., water) to someone who is unconscious, having convulsions, or unable to swallow. If contaminated individual is convulsing, maintain an open airway and obtain immediate medical attention.

4.2 Most Important Symptoms/Effects:

Immediate: Inhalation exposure may cause coughing or sneezing. Symptoms of skin and eye contact may include redness and irritation. Ingestion may cause stomach pains, cramps, and gastritis.

Delayed: Prolonged or repeated skin overexposure to this product may cause

dermatitis (dry, red skin). Symptoms may include tingling, redness, and visible injury.

4.3 Indication Of Immediate Medical Attention And Special Treatment Needed, If Necessary:

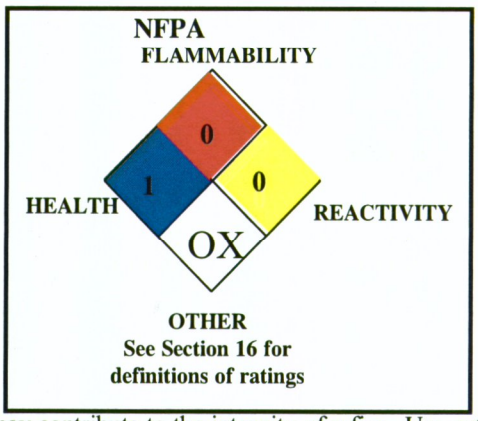
TARGET ORGANS: Acute: Skin, eyes. Chronic: Skin.

Victims of chemical exposure must be taken for medical attention if any adverse effects occur. Rescuers should be taken for medical attention if necessary. Take a copy of label and MSDS to physician or health professional with victim.

5. FIRE-FIGHTING MEASURES

Flammable properties

Non-flammable aqueous solution
Flash Point °C (°F): Not applicable.
Autoignition Temperature °C (°F): Not applicable.
Flammable Limits (in air by volume, %):
Upper: Not applicable.
Lower: Not applicable.



5.1 Suitable And Unsuitable Extinguishing Media:

This material may contribute to the intensity of a fire. Use extinguishing material suitable to the surrounding fire.

Water spray	YES	Carbon dioxide	YES
Foam	YES	Dry chemical	YES
Halon	YES	Other	YES

5.2 Specific Hazards Arising From Chemical:

When involved in a fire, this material may decompose and produce irritating fumes and toxic gases (e.g., carbon monoxide, carbon dioxide, and phosphorous oxides).

Explosion Sensitivity to Mechanical Impact: Not applicable.
Explosion Sensitivity to Static Discharge: Not applicable.

5.3 Special Protective Equipment And Precautions For Fire-Fighters:

Incipient fire responders should wear eye protection. Structural firefighters must wear Self-Contained Breathing Apparatus and full protective equipment. Move containers from fire area if it can be done without risk to personnel. If possible, prevent runoff water from entering storm drains, bodies of water, or other environmentally sensitive areas.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions

Uncontrolled releases should be responded to by trained personnel using pre-planned procedures. Proper protective equipment should be used. In case of a spill, clear the affected area and protect people.

Protective equipment

For small releases (< 20 kg), clean up spilled solid wearing gloves, safety glasses and work clothes. The minimum Personal Protective Equipment recommended for response to non-incidental releases (more than 20 kg) should

		be Level C: triple-gloves (neoprene gloves and nitrile gloves over latex gloves), chemical resistant suit and boots, and air purifying respirator fitted with a HEPA filter.
	Emergency procedures	Monitoring must indicate that exposure levels are below those provided in Section 3 (Composition and Information on Ingredients) and that oxygen levels are above 19.5% before anyone is permitted in the area without Self-Contained Breathing Apparatus.
6.2	Methods and Materials for Containment and Cleaning Up	Vacuum or sweep solid into plastic container. Avoid excessive dust formation. Dispose of in accordance with applicable U.S. Federal, State, or local procedures, or appropriate local standards (see Section 13, Disposal Considerations).

7. HANDLING and STORAGE

7.1	Precautions for Safe Handling	All employees who handle this material should be trained to handle it safely. Open containers carefully on a stable surface. Empty containers may contain residual powder; therefore, empty containers should be handled with care. As with all chemicals, avoid getting this product ON YOU or IN YOU. Wash thoroughly after handling this product. Do not eat or drink while handling this material. Avoid generating mists and sprays of this product. Remove contaminated clothing immediately. During equipment maintenance follow practices indicated in Section 6 (Accidental Release Measures) to decontaminate equipment or clean-up small spills. Make certain that application equipment is locked and tagged-out safely if necessary. Collect all wastes and dispose of according to applicable U.S. Federal, State, or local procedures or appropriate local standards.
7.2	Conditions For Safe Storage	Store containers in a cool, dry location, away from direct sunlight, sources of intense heat, or where freezing is possible. Store away from incompatible materials. Keep container tightly closed when not in use. If appropriate, post warning signs in storage and use areas. Inspect all incoming containers before storage, to ensure containers are properly labeled and not damaged.
	Incompatibilities	Strong acids.

8. EXPOSURE CONTROLS - PERSONAL PROTECTION

8.1 Exposure Guidelines

CHEMICAL NAME	CAS #	EXPOSURE LIMITS IN AIR					
		ACGIH-TLV		OSHA-PEL			
		TWA mg/m^3	STEL mg/m^3	TWA mg/m^3	STEL mg/m^3	IDLH mg/m^3	OTHER mg/m^3
Sodium carbonate	Proprietary	NE	NE	NE	NE	NE	NE
Sodium Percarbonate	Proprietary	NE	NE	NE	NE	NE	NE
Chelate Compound	Proprietary	NE	NE	NE	NE	NE	NE
Organic acid sodium salt	Proprietary	NE	NE	NE	NE	NE	NE
Glycol wetting agent	Proprietary	NE	NE	NE	NE	NE	NE
Product, dust	N/A	Inhalable: 10 Respirable: 3	NE	Total: 15 Respirable: 5	NE	NE	NE
NE = Not Established. C = Ceiling Limit. See Section 16 for Definitions of Terms Used.							

8.2	Appropriate Engineering Controls.	Use with adequate ventilation to ensure exposure levels are maintained below the limits provided in this Section or as low as reasonably achievable. Ensure eyewash/safety shower stations are available near areas where this product is used.
8.3	Personal Protective Equipment	
	Respiratory protection:	None needed under normal conditions of use. Use NIOSH approved respirators if ventilation is inadequate to control dusts, mists or vapor. If respiratory protection is needed, use only protection authorized in the U.S. Federal OSHA Standard (29 CFR 1910.134), applicable U.S. State regulations, or the applicable local standards. Oxygen levels below 19.5% are considered IDLH by OSHA. In such atmospheres, use of a full-face piece pressure/demand SCBA or a full-face piece, supplied air respirator with auxiliary self-contained air supply is required under OSHA's Respiratory Protection Standard (1910.134-1998).
	Eye protection:	Use approved safety goggles or safety glasses, as described in OSHA 29 CFR 1910.133. Splash goggles with a faceshield may be needed if splash hazards exist.
	Hand protection:	Wear chemical impervious gloves (e.g., Solvex™, Neoprene).
	Body protection:	If needed, use body protection appropriate for task (e.g., Tyvek suit, rubber apron) to protect from dusts, splashes and sprays.

9. PHYSICAL and CHEMICAL PROPERTIES

Appearance	This product is a white, crystalline free-flowing powder with no discernible odor.		
Odor	Odorless	Odor Threshold	N/A
Melting Point °C (°F)	Not Determined	pH (2% in water)	10.8 – 11.3
Initial Boiling Point °C (°F)	N/A	Boiling Point Range °C (°F)	N/A
Flammability	Non-flammable	Evaporation Rate (water = 1)	N/A
Vapor Density (air = 1)	N/A	Vapor Pressure mm Hg @ 20°C:	N/A
Solubility (in water)	Soluble	Relative density (water = 1)	1.1 – 1.2
Viscosity	N/A	Oil-Water Partition Coefficient	N/A
Decomposition Temperature	Not Determined		
How To Detect This Substance (Warning Properties):	Appearance		

10. STABILITY and REACTIVITY

10.1	Reactivity	Not considered reactive.
10.2	Chemical Stability	Stable
10.3	Possibility of hazardous reactions	Hazardous polymerization will not occur.
10.4	Conditions to avoid	Avoid mixing with incompatible materials.
10.5	Incompatible Materials	Very strong acids
10.6	Hazardous Decomposition Products	Thermal decomposition of this product may generate carbon monoxide and carbon dioxide.

11. TOXICOLOGICAL INFORMATION

Toxicity data for hazardous ingredients	Oral LD_{50} mg/kg	Dermal LD_{50} mg/kg	Inhalation LD_{50} mg/kg
Sodium carbonate	4090	N/A	2300
Sodium percarbonate	> 1034	> 2000	N/A
Chelate Compound	> 2000	> 2000	N/A
Organic acid sodium salt	N/A	N/A	N/A
Glycol wetting agent	N/A	N/A	N/A

12. ECOLOGICAL INFORMATION

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

12.1 Ecotoxicity		LC_{50}, mg/L	EC_{50}, mg/L
Sodium carbonate			
	Aquatic	96 – hour LC50: 265 – 565 mg/l (daphnia magnia) (low toxicity) 300 – 320 mg/l (blue gill sunfish) (low toxicity) 96 – hour TLm: 1200 mg/l (mosquito-fish) 48 – hour TLm: 840 mg/l (mosquito-fish)	48 – hour EC50: 265 mg/l (daphnia magnia) 5 Day EC 50: 242 mg/l (Nitszcheria linearis)
	Terrestrial	No bioaccumulation	
Sodium percarbonate			
	Aquatic		> 50 (Fathead minnow; 96 hr)
	Terrestrial		> 7.7 (C. vulgaris)
Chelate Compound			
	Aquatic		> 82.6
	Terrestrial	Inherently biodegradable	
Organic acid sodium salt			
	Aquatic Terrestrial	Low bioaccumulation potential	
Glycol wetting agent			
	Aquatic Terrestrial	Low bioaccumulation potential	

12.2	Persistence and Degradability	The components of this product decompose in soil and water.
12.3	Bioaccumulative Potential	The components of this product are not expected to bioaccumulate.
12.4	Mobility in Soil	When spilled onto soil, this product will infiltrate downward, the rate being greater with lower concentration because of reduced viscosity. During transport through the soil, this product will dissolve some of the soil material, in particular, carbonate-based materials.
12.5	Other Adverse Ecological Effects	This product may be harmful to aquatic life if large volumes of it are released into an aquatic environment.

13. DISPOSAL CONSIDERATIONS

Preparing Wastes of this Product for Disposal	Waste disposal must be in accordance with appropriate U.S. Federal, State, and local regulations or with local regulations. This product, if unaltered by the handling, may be disposed of by treatment at a permitted facility or as advised by your local waste regulatory authority.
Disposal of Contaminated Packaging	Cleaned containers can be recycled or disposed of as non-contaminated waste, if authorized by your local authorities. Dispose of containers as required by local regulations.
U.S. EPA Waste Number	Not applicable.

14. TRANSPORTATION INFORMATION

THIS MATERIAL IS HAZARDOUS AS DEFINED BY 49 CFR 172.101 BY THE U.S. DEPARTMENT OF TRANSPORTATION.

14.1	UN Number	UN 3262
14.2	UN Proper Shipping Name	Corrosive solid, basic, inorganic, n.o.s. (Sodium carbonate, Sodium Percarbonate)
14.3	Transport Hazard Class(es)	8, Corrosive
	Transport label(s) required	8, Corrosive
14.4	Packing Group	II
14.5	Marine Pollutant	No
	NA Emergency Response Guide Number (2012)	154
14.6	Transport in Bulk (Annex II of MARPOL 73/78 and IBC Code)	Not listed
14.7	Special Transport Precautions	Not applicable
	National Motor Freight Classification	LTL: 100; T: 70

International Air Transport Association

UN Number	UN 3262
UN Proper Shipping Name	Corrosive solid, basic, inorganic, n.o.s. (Sodium carbonate, Sodium Percarbonate)
Transport Hazard Class(es)	8, Corrosive
Transport label(s) required	8, Corrosive
Packing Group	II
IATA Emergency Response Code	8L
Excepted Quantity	5 KG
Packaging Instructions	863;859;Y844

International Maritime Organization

UN Number	UN 3262
UN Proper Shipping Name	Corrosive solid, basic, inorganic, n.o.s. (Sodium carbonate, Sodium Percarbonate)
Transport Hazard Class(es)	8, Corrosive
Transport label(s) required	8, Corrosive
Packing Group	II
Marine Pollutant	No
NA Emergency Response Guide Number (2012)	154
Transport in Bulk (Annex II of MARPOL 73/78 and IBC Code)	Not listed

15. SAFETY, HEALTH and ENVIRONMENTAL REGULATIONS SPECIFIC FOR THE PRODUCT

15.1	Regulatory Programs Soda Ash			Sodium percarbonate			Chelate Compound		
Program	YES	NO	Value	YES	NO	Value	YES	NO	Value
US EPA PROGRAMS									
Clean Air Act Hazardous Air Pollutants		NO			NO			NO	
Safe Drinking Water Act		NO			NO			NO	
RCRA F, K, P, U or D-lists		NO		YES		D002		NO	
SARA 302 RQ		NO			NO			NO	
SARA 302 TPQ		NO			NO			NO	
SARA 313 LISTED		NO			NO			NO	
SARA CHEMICAL CATEGORIES									
SARA 311/312 ACUTE	YES			YES				NO	
SARA 311/312 CHRONIC		NO			NO			NO	
SARA 311/312 FIRE		NO			NO			NO	
SARA 311/312 PRESSURE		NO			NO			NO	
SARA 311/312 REACTIVITY		NO			NO			NO	
EPA EXTREMELY HAZARDOUS SUBSTANCE		NO			NO			NO	
CALIFORNIA SAFE DRINKING WATER ACT (Proposition 65)									
This product does not contain any chemical listed on the California Safe Drinking Water Act list (Proposition 65)									
US OSHA PROGRAMS									
PEL	YES			YES		1 mg/m^3		NO	
PSM		NO			NO			NO	
CHEMICAL INVENTORY PROGRAMS									
WHMIS	YES		D2B	YES		C, D2B		NO	
DSL	YES			YES			YES		
NDSL	N/A			N/A			N/A		
REACH Pre-registered List	YES			YES			YES		
TSCA	YES			YES			YES		
European Inventory of Existing Commercial Chemical Substances (EINECS)	YES			YES			YES		
EU CHEMICAL	YES		PENDING	No information			No information		

15.1 (continued)	Regulatory Programs					
	Organic acid sodium salt			Glycol wetting agent		
Program	YES	NO	Value	YES	NO	Value
US EPA PROGRAMS						
Clean Air Act Hazardous Air Pollutants		NO			NO	
Safe Drinking Water Act		NO			NO	
RCRA F, K, P, U or D-lists		NO			NO	
SARA 302 RQ		NO			NO	
SARA 302 TPQ		NO			NO	
SARA 313 LISTED		NO			NO	
SARA CHEMICAL CATEGORIES						
SARA 311/312 ACUTE	YES				NO	
SARA 311/312 CHRONIC		NO			NO	
SARA 311/312 FIRE		NO			NO	
SARA 311/312 PRESSURE		NO			NO	
SARA 311/312 REACTIVITY		NO			NO	
EPA EXTREMELY HAZARDOUS SUBSTANCE		NO			NO	
CALIFORNIA SAFE DRINKING WATER ACT (Proposition 65)						
US OSHA PROGRAMS						
PEL		NO			NO	
PSM		NO			NO	
CHEMICAL INVENTORY PROGRAMS						
WHMIS	YES		D2B	YES		D2B
DSL	YES			YES		
NDSL	N/A			N/A		
REACH Pre-registered List	YES			YES		
TSCA	YES			YES		
European Inventory of Existing Commercial Chemical Substances (EINECS)	YES			YES		

EU CHEMICAL SAFETY ASSESSMENT	No information	No information

15.2 GHS/ANSI/US OSHA Label Elements

Product Identified	AVISTACLEAN 115
Signal Word	WARNING
Hazard Statements	**WARNING** **Harmful if swallowed.** **Causes skin irritation.** **Causes serious eye irritation.** **May intensify fire; oxidizer.** **Contact with combustible material may cause fire.** **Dusts and Mists May be harmful if inhaled**
Precautionary Statements	Prevention: Use only in a well-ventilated area. Use personal protective equipment as required. Response: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. IF ON SKIN: Wash with plenty of soap and water. If eye irritation persists: Get medical advice/attention. Storage: Store in a closed container. Disposal: Dispose of product in accordance with Federal, State and local requirements.
Pictograms	

15.3 Additional Information — Wash thoroughly after handling. Consult Material Safety Data Sheet for additional information on safe use, handling, clean-up and disposal.

16. OTHER INFORMATION

16.1	Original Preparation	16 Oct 2012
16.2	Revision History	5 Feb 2013
16.3	Prepared by	ADVANCED CHEMICAL SAFETY, Inc. PO Box 152329 San Diego, CA 92195 (858)-874-5577
16.4	Date of Printing	February 6, 2013

DEFINITIONS OF TERMS

16.5	A large number of abbreviations and acronyms appear on a MSDS. Some of these which are commonly used include the following:	
	Section 2	**GHS**: Global Harmonization System **OSHA:** U.S. Occupational Safety and Health Administration. **CLP**: Classification and Packaging **WHMIS**: Workplace Hazardous Materials Information System **STOT**: Specific Target Organ Toxicity
	Section 3	**CAS #:** Chemical Abstract Service index number **EINECS #:** European Chemical Substances Information System index number
	Section 5	**NFPA:** Nation Fire Protection Association **Health Hazard: 0** (material that on exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials); **1** (materials that on exposure under fire conditions could cause irritation or minor residual injury); **2** (materials that on intense or continued exposure under fire conditions could cause temporary incapacitation or possible residual injury); **3** (materials that can on short exposure could cause serious temporary or residual injury); **4** (materials that under very short exposure could cause death or major residual injury). **Flammability Hazard** **Reactivity Hazard:** Refer to definitions for "Hazardous Materials Identification System". **Flash Point**: Minimum temperature at which a liquid gives off sufficient vapors to form an ignitable mixture with air. **Autoignition Temperature:** The minimum temperature required to initiate combustion in air with no other source of ignition. **LEL:** The lowest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source. **UEL**: The highest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source.
	Section 8	**ACGIH** - American Conference of Governmental Industrial Hygienists, a professional association which establishes exposure limits. **TLV** - Threshold Limit Value - an airborne concentration of a substance which represents conditions under which it is generally believed that nearly all workers may be repeatedly exposed without adverse effect. The duration must be considered, including the 8-hour Time Weighted Average **(TWA)**, the 15-minute Short Term Exposure Limit, and the instantaneous Ceiling Level **(C)**. Skin absorption effects must also be considered **PEL** - Permissible Exposure Limit - This exposure value means exactly the same as a TLV, except that it is enforceable by OSHA. The OSHA Permissible Exposure Limits are based in the 1989 PELs and the June, 1993 Air Contaminants Rule (Federal Register: 58: 35338-35351 and 58: 40191). Both the current PELs and the vacated PELs are indicated. The phrase, "Vacated 1989 PEL," is placed next to the PEL which was vacated by Court Order. **IDLH** - Immediately Dangerous to Life and Health - This level represents a concentration from which one can escape within 30-minutes without suffering escape-preventing or permanent injury. **The DFG - MAK** is the Republic of Germany's Maximum Exposure Level, similar to the U.S. PEL. **NIOSH** is the National Institute of Occupational Safety and Health, which is the research arm of the U.S. Occupational Safety and Health Administration (**OSHA**). NIOSH issues exposure guidelines called **R**ecommended **E**xposure **L**evels (**RELs**). When no exposure guidelines are established, an entry of **NE (Not Established)** is made for reference.
	Section 11	**LD_{50}** : Lethal Dose (solids & liquids) which kills 50% of the exposed animals; **LC_{50}** : Lethal Concentration (gases) which kills 50% of the exposed animals; **ppm:** Concentration expressed in parts of material per million parts of air or water; **mg/m^3** : Concentration expressed in weight of substance per volume of air; **mg/kg:** Quantity of material, by weight, administered to a test subject, based on their body weight in kg **IARC** - the International Agency for Research on Cancer; **NTP** - the National Toxicology Program, **RTECS** - the Registry of Toxic Effects of Chemical Substances, **OSHA** and **CAL/OSHA**. IARC and NTP rate chemicals on a scale of decreasing potential to cause human cancer with rankings from 1 to 4. Subrankings (2A, 2B, etc.) are also used. **TDLo**, the lowest dose to cause a symptom and **TCLo** the lowest concentration to cause a symptom; **TDo, LDLo**, and **LDo**, or **TC, TCo, LCLo**, and **LCo**, the lowest dose (or concentration) to cause lethal or toxic effects. **BEI** - Biological Exposure Indices, represent the levels of determinants which are most likely to be observed in specimens collected from a healthy worker who has been exposed to chemicals to the same extent as a worker with inhalation exposure to the TLV.
	Section 12	**LC_{50}:** The lowest concentration in water which kills 50% of the test subjects. **EC_{50}:** The Effect Concentration in water at which 50% of the test species if affected.
	Section 13	**US EPA Hazardous Waste Codes**: refer to 40 CFR 261.20
	Section 14	**DOT**: US Department of Transportation **IATA**: International Air Transport Association **IMO**: International Maritime Organization **MARPOL:** International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978 **IBC Code** : Merchant Shipping Code
	Section 15	**RCRA**: US Resource Conservation and Recovery Act **SARA:** US Superfund Amendments and Reauthorization Act **PSM**: US OSHA Process Safety Management **CFATS:** US Department of Homeland Security Chemical Facility Anti-terrorism Standard **DSL:** Canadian Domestic Substances List **NDSL:** Canadian Non-Domestic Substances List **REACH**: European Registration, Evaluation, Authorization and Restriction of Chemicals list **TSCA:** US Toxic Substances Control Act

AEP AMERICAN ELECTRIC POWER

American Electric Power
PO Box 660164
Dallas, TX 75266-0164

Franklin L Mills, RT-ENV

CERTIFIED MAIL™

7011 3500 0000 0199 2695

UNITED STATES POSTAGE
PITNEY BOWES
02 1M
0004277457
$ 07.17⁰
FEB 15 2013
MAILED FROM ZIP CODE 75201

RETURN RECEIPT REQUIRED

Franklin L Mills
Dallas, RT - ENV

American Electric Power
P.O. Box 660164
Dallas, TX 75266-0164

AEP AMERICAN ELECTRIC POWER

Arkansas Dept of Environmental Quality
NPDES Branch, Water Division
Attn: Shane Byrum
5301 Northshore Drive
North Little Rock, AR 72118 - 5317

AEP: America's Energy Partner