

SUPPLY CHAIN REQUEST FOR SIGNATURE SHEET

To: John Young
From: Gerald Coyne
Telephone: 856-727-6219
Email: gerald.coyne@amwater.com
Date: 11-21-2007

Re: Agreement to Supply Potable Water Treatment Chemicals for 2008

I. Category Name: Water Treatment Chemicals (Applied Specialties, Inc.)

II. Monetary Value of Agreement (approximate annual spend or anticipated total spend for project) 1,600,000.00

III. Term of Agreement: 5 years for T&C's 1 year for pricing

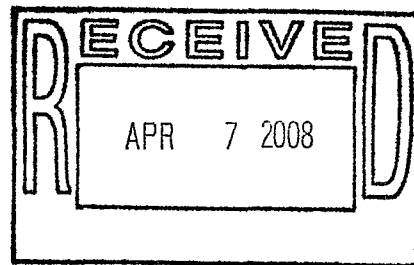
IV. Category/Project Team Members:

Category Champion - John Young
Category Leads – Regional Directors of Operations
Supply Chain Lead – Gerald Coyne

V. Agreement Reviewed by:

Steve Robbins
Greg Samuels
Gerald Coyne

VI. Detailed summary of the attached Agreement: Water Treatment Chemical contract for 2008/2013 term.



REMINDER—BLUE INK IS REQUIRED FOR ALL SIGNATURES

CONTRACT APPROVAL FORM**Section I: General Contract Information**

☒ CHECK THIS BOX IF THIS IS AN AMERICAN WATER STANDARD CONTRACT (NO CHANGES MADE)

1) Contract Name*: Agreement to Supply Potable Water Treatment Chemicals for 2008 Applied Specialties, Inc.

2) Contract Number: _____

3a) Contract Owner* Gerald J Coyne

Phone number* 856-727-6219

3b) Contract Owner taking responsibility after the contract is signed (if different than original Contract Owner):

Gerald Coyne

Phone number 856-727-6219

4) Secondary contact name and phone number Righard Guyer 856-727-6205

5) Physical location of document(s) (office location and department name)*: Mount Laurel-Voorhees

6) Name of the American Water company entering into the contract*: American Water Works Service Company, Inc.

7) Other company or companies signing the contract*: _____

8) Contract description*: Chemicals and Vessels

9) Relationship to other contracts (amendment, change order with new terms, etc.)*: _____

10a) Estimated Lifetime

Contract Payments*: \$1,600,000.00

10b) Estimated Lifetime

Contract Receipts* \$ _____

Estimated Lifetime Contract Payments should be expressed in gross

11) Effective Date*: 1-1-2008

12) Renewal terms* (check one): ☐ Perpetual unless cancelled ☐ Annual automatic renewal unless cancelled
☐ Monthly automatic renewal unless cancelled ☐ Not renewable
☐ Renewable with prior notice (notice date: ____/____/____)
☒ Other (describe on item 15)

13) Termination Date*: 12-31-2013

14) Termination provisions* (check all that apply): ☐ At-will by either party ☒ At-will by AW only
☐ At-will by other party only ☐ For cause by either party
☐ For cause by AW ☐ For cause by other party
☐ No termination provisions in contract

15) Miscellaneous Note: Renewed at end of agreement

CONTRACT APPROVAL FORM**16) Contract Type* (check only one box):**

NOTE: See Appendix 1 for a description of each contract type

Contract types marked with an "F" require the prior input and approval of the Finance Department

Contract types marked with an "F\$" require the prior input and approval of the Finance Department if the total value exceeds \$100,000

Contract types marked with a "P" require the prior input and approval of the Supply Chain Department

See Instructions for description of approval process

- | | | | |
|---------------------------------|--|-------------------------------------|--|
| <input type="checkbox"/> (F)(P) | Benefit/Pension Agreement | <input type="checkbox"/> (F) | Joint Venture Agreement |
| <input type="checkbox"/> | Billing/Shut-Off Agreement | <input type="checkbox"/> | Labor Agreement |
| <input type="checkbox"/> (F) | Debt/Securities Agreement | <input type="checkbox"/> (F\$)(P) | Lease Agreement |
| <input type="checkbox"/> | Confidentiality Agreement | <input type="checkbox"/> (P) | License Agreement |
| <input type="checkbox"/> (F\$) | Construction Agreement | <input type="checkbox"/> (F) | Merger/Acquisition/Disposition Agreement |
| <input type="checkbox"/> | Developer Service/Main Extension Agreement | <input type="checkbox"/> (F) | Miscellaneous Agreement |
| <input type="checkbox"/> (F\$) | Easement Agreement | <input type="checkbox"/> (F) | Operating Agreement |
| <input type="checkbox"/> (F) | Employment Agreement | <input type="checkbox"/> (F\$)(P) | Purchase/Sale Agreement |
| <input type="checkbox"/> (F) | Environmental Agreement | <input type="checkbox"/> | Rate Agreement |
| <input type="checkbox"/> (F) | Financial Agreement | <input type="checkbox"/> (F\$)(P**) | Services Agreement |
| <input type="checkbox"/> | Fire Protection Agreement | <input type="checkbox"/> (F) | Settlement Agreement |
| <input type="checkbox"/> (F) | Franchise Agreement | <input type="checkbox"/> (P) | Supply Agreement |
| | | <input type="checkbox"/> (F) | Water Supply/Wastewater Agreement |

**- Only when the company is receiving the services

17) If the contract contains a payment commitment by AW in future years (such as a long-term supply agreement or lease), fill out the following schedule*:

Year	Commitment Amount (in \$'s)
2007	
2008	
2009	
2010	
2011	
2012	
2013	
2014	

Year	Commitment Amount (in \$'s)
2015	
2016	
2017	
2018	
2019	
2020	
2021	
2022 and beyond	

CONTRACT APPROVAL FORM**Section II: Approvals***Applied Specialties***Business Unit Review:****CONTRACT OWNER***

Stephen Schmitt *[Signature]* *4/10/08*
 (Name) (Signature) (Date)

By checking this box, Contract Owner represents he/she has reviewed the Delegation of Authority and is authorized to sign the contract: ☐

CONTRACT SIGNER (only if Contract Owner does not have authority to sign contract pursuant to the DOA; see instructions)

 (Name) (Signature) (Date)

Comment (use back if necessary)

Law Department Review by:**ATTORNEY***

Steve R. B. B. B. *[Signature]* *7/31/08*
 (Name) (Signature) (Date)

Comment (use back if necessary)

Finance Department Review by:

 (Name) (Signature) (Date)

Check box if Finance Department review is not required: ☐

Comment (use back if necessary)

Supply Chain Department Review by:

Gerald J Coyne *[Signature]* *10-22-2007*
 (Name) (Signature) (Date)

Check box if Supply Chain Department review is not required: ☐

Comment (use back if necessary)
Corrected Insurance Cert. to follow to include the contractual amounts

CONTRACT APPROVAL FORM**Section II: Approvals****Business Unit Review:****CONTRACT OWNER***

____ (Name) _____ (Signature) _____ (Date)

By checking this box, Contract Owner represents he/she has reviewed the Delegation of Authority and is authorized to sign the contract: ☐

CONTRACT SIGNER (only if Contract Owner does not have authority to sign contract pursuant to the DOA; see instructions)

____ (Name) _____ (Signature) _____ (Date)

Law Department Review by:**ATTORNEY***

____ (Name) _____ (Signature) _____ (Date)

Finance Department Review by:

____ (Name) _____ (Signature) _____ (Date)

Check box if Finance Department review is not required: ☐

Supply Chain Department Review by:

Gerald J Coyne
(Name)


(Signature)

10-22-2007
(Date)

Check box if Supply Chain Department review is not required: ☐

Comment (use back if necessary)

Comment (use back if necessary)

Comment (use back if necessary)

Comment (use back if necessary)

Corrected Insurance Cert. to follow to include the contractual amounts

Basic Contract Approval Process

See full instructions below for definitions and explanations.

Standard Contracts:

1. The Contract Owner fills in the blanks on the standard contract form and makes no other changes to the contract.
2. The Contract Owner and other party sign the contract.
3. The Contract Owner completes and signs the Contract Approval Form. One Contract Approval Form may cover multiple contracts for a given time period (contact the regional Law Department for specific procedure).
4. The Contract Owner scans the Contract Approval Form and the contract into .pdf format and transmits both (as separate files) to the regional Law Department (contact the regional Law Department for specific procedure). If one Contract Approval Form is used to cover multiple contracts, each contract must be scanned as a separate file.
5. The original signed contract is maintained per existing document retention policies.

Non-Standard Contracts

1. The Contract Owner contacts the Law Department for assistance with negotiating and reviewing the contract.
2. The Contract Owner determines whether the Finance Department and/or the Supply Chain Department are required to review and approve the contract before it is signed (see the Contract Approval Form for contract types and required approvals).
3. The Contract Owner notifies the Finance Department and/or Supply Chain Departments if required.
4. The Contract Owner, lawyer(s) and appropriate Finance Department and/or Supply Chain Department personnel negotiate and review the contract.
5. The Contract Owner completes and signs the Contract Approval Form.
6. If the Contract Owner does not have authority to sign the contract pursuant to the Delegation of Authority, a Contract Signer must also sign the Contract Approval Form.
7. The Contract Owner distributes the Contract Approval Form and final form of agreement to the lawyer and the finance personnel and/or supply chain personnel responsible for reviewing the contract, as required.
8. The lawyer, finance personnel and supply chain personnel responsible for reviewing the contract review and approve the contract, sign the Contract Approval Form and return the signed Contract Approval Form to the Contract Owner.
9. The Contract Owner (or Contract Signer) and the other party sign the contract.
10. The Contract Owner scans the Contract Approval Form and the contract into .pdf format and transmits both (as separate files) to the regional Law Department (contact the regional Law Department for specific procedure).
11. The original signed contract is maintained per existing document retention policies.

Instructions for use of Contract Approval Form

Before any contract can be entered into on behalf of any American Water entity, this Contract Approval Form must be properly completed and signed by the persons described below. Once the contract is signed by all parties, a copy of the contract and this completed form must be scanned into .pdf format (as separate files) and sent to the Law Department for indexing. Consult with your regional Law Department with respect to filing/storage of the physical document and scanning procedures. The index will be used by the Finance Department to identify the contracts necessary to compile the company's financial statements and other disclosure obligations.

This form must be used for all contracts, amendments to existing contracts, and any "statements of work" or "change orders" that change the obligations of the parties to the contract. For example, a statement of work that describes the specific obligations of the parties that are referred to generally in the contract, but does not change the amounts or timing of any payments under the contract does not require a new Contract Approval Form and process. A statement of work that describes the specific obligations of the parties, but increases or for the first time specifies the amount of payments due under the contract, or changes the payment schedule from weekly to monthly would require a new Contract Approval Form and process.

All contracts must be reviewed and approved in accordance with the Delegation of Authority ("DOA") and the Code of Ethics. All contracts that are not pre-approved standard contracts must be reviewed by an attorney in the Law Department. All contract types marked "F" below must be reviewed by a member of the Finance Department. All contract types marked "F\$" must be reviewed by a member of the Finance Department if the total lifetime payments for the contract (item 10a below) exceeds \$100,000. All contract types marked "P" must be reviewed by a member of the Supply Chain Department.

The Law Department has created certain pre-approved standard contract forms with some terms left blank. If you are using one of these pre-approved standard contract forms and no changes are made to the form except for filling in the blanks, unless the total value of the contract exceeds \$100,000, Law Department review and approval is NOT required before the parties sign the contract. If you are not sure if the contract you are using is a pre-approved standard contract form, consult the Law Department. Standard contracts still need to be collected and sent to the Law Department. Consult the Law Department for specific transmittal procedures for standard contracts.

For purposes of American Water contract administration policies and practices, contract review requires the active participation of the Law, Finance or Supply Chain Department reviewer in establishing the terms of the contract relevant to their area of expertise. The level of involvement by a Law, Finance or Supply Chain Department reviewer, when applicable, is determined by Law, Finance and Supply Chain Department policies and practices. Only Law Department personnel are authorized to engage outside counsel to assist in the negotiation or review of a contract. Contract owners must contact the Law Department and Supply Chain Department (if Supply Chain Department review is required) before any negotiation of terms occurs to determine the extent to which those departments will be involved in the negotiation process and when that will occur. Failure to do this may result in a termination of contract negotiations. Contract owners should also contact the Finance Department early in the contracting process if the contract type requires Finance Department review and approval prior to signing the contract.

The contract owner (who is identified in item 3a) is responsible for obtaining all necessary reviews and approvals well before signing the contract. By signing the Contract Approval Form, the contract owner acknowledges that he or she: (1) has primary responsibility for negotiating and agreeing to the terms of the contract, and (2) has followed all American Water policies and practices (including the Code of Ethics) that apply regarding the subject matter of the contract. Unless otherwise indicated on the Contract Approval Form, the contract owner is responsible for managing the company's obligations under that contract. If the contract owner will not be responsible for managing the company's obligations under the contract after it is signed, the person who will have such responsibility must be named on the Contract Approval Form (see item 3b).

If the contract owner does not have authority under the DOA to sign the contract, the contract owner must obtain the approval of another employee in their business unit that has sufficient authority to sign the contract. This second employee is the "contract signer". By signing the Contract Approval Form, the contract signer

acknowledges that he or she is the proper party to approve and physically sign the contract pursuant to the DOA and all other American Water policies and practices regarding the subject matter of the contract.

The Law Department reviewer is the attorney responsible for providing advice and counsel to the contract owner regarding legal issues related to the contract. By signing the Contract Approval Form, the attorney acknowledges that he or she reviewed the contract in a manner consistent with Law Department policies and practices in that attorney's judgment. An attorney may use one Contract Approval Form to approve several standard contracts at the same time if the standard contracts comply with the Law Department's procedures established for standard contracts.

The Finance Department reviewer, if required, is responsible for providing financial advice to the contract owner and acting as an interface with the Finance Department, so that the Finance Department can take appropriate actions with respect to the completion of the contract. By signing the Contract Approval Form, the Finance Department reviewer acknowledges that he or she reviewed the contract and relayed any accounting or finance issues to the Finance Department or other required department in a manner consistent with Finance Department policies and practices.

The Supply Chain Department reviewer, if required, is responsible for confirming that the contract was negotiated and entered into in a manner consistent with Supply Chain Department policies and practices. By signing the Contract Approval Form, the Supply Chain Department employee acknowledges that he or she participated in the negotiation of the contract and that the contract was entered into in a manner consistent with Supply Chain Department policies and procedures.

EXHIBIT A**CONTRACT TYPE DEFINITIONS**

The following is the list of contract types to be used on the Contract Approval Form, along with representative examples of the types of contracts that will fit under those types. The contract types are meant to be broad categories and the descriptions and lists that follow are meant to serve as guides. Designating a contract under an inappropriate specific contract type for the sole purpose of avoiding Finance or Supply Chain Department review is strictly prohibited. If in doubt as to which contract type to use, consult with your Law Department reviewer.

All non-standard contracts must be reviewed by an attorney in the Law Department (See Instructions).

Contract types marked with an "F" require the prior input and approval of the Finance Department.

Contract types marked with an "F\$" require the prior input and approval of the Finance Department if the total value exceeds \$100,000.

Contract types marked with a "P" require the prior input and approval of the Supply Chain Department.

See Instructions for a complete description of the approval process.

<u>Contract Type</u>	<u>Description</u>
Benefit/Pension Agreement (F)(P)	All contracts relating to employee benefits, such as 401(k) management, pension management, health insurance group contracts, union benefit/pension agreements
Billing/Shut-Off Agreement	Usage data, termination and customer billing agreements
Debt/Securities Agreement (F)	Agreements relating to the issuance of debt or securities by the company to non-affiliates, generally in a capital raising or refinancing transaction; includes related underwriting and placement agreements; does not include intercompany agreements
Confidentiality Agreement	Stand-alone non-disclosure or confidentiality agreements, such as related to an RFP or acquisition transaction
Construction Agreement (F\$)	New projects; includes prime contractor and subcontractor agreements; does not include main extension agreements or outsourced maintenance or repair provider contracts
Developer Service/Main Extension Agreement	All Developer Service or Main Extension Agreements
Easement Agreement (F\$)	All Easement Agreements
Employment Agreement (F)	Individual employment agreements, termination agreements and severance agreements; does not include union/collective bargaining or pension/benefit agreements

<u>Contract Type</u>	<u>Description</u>
Environmental Agreement (F)	Agreements with governmental authorities; does not include agreements to provide remediation services, testing, consulting or professional service agreements
Financial Agreement (F)	Agreements dealing with the company's internal financing, such as intercompany loan or capital contribution arrangements, agreements to purchase or sell securities held for investment; does not include variable interest investments (FIN 46) or joint ventures
Fire Protection Agreement	All Fire Protection Agreements
Franchise Agreement (F)	Agreement or municipal ordinance under which the company receives the right or consent of a particular town or city to provide water or wastewater service to customers located in the town or city (or a part thereof)
Joint Venture Agreement (F)	Variable interest investments (FIN 46), non-consolidated investments
Labor Agreement	Union/collective bargaining contracts and related agreements; arbitration agreements/settlements; does not include union benefit/pension agreements
Lease Agreement (F\$(P)	Real estate and equipment leases, including capital leases; includes agreements where the company is either lessor/landlord or lessee/tenant
License Agreement (P)	Software and other intellectual property agreements; does not include "shrink-wrap" software licenses or licenses to software incidental to other equipment
Merger/Acquisition/Disposition Agreement (F)	Purchase or sale of businesses, including water or wastewater system assets in the aggregate, and related agreements (letters of intent, bills of sale, assignment and assumption agreements, etc.)
Miscellaneous Agreement (F)	To be used very sparingly and only if no other category is relevant
Operating Agreement (F)	O&M, Design-Build-Operate and other agreements to operate systems owned by others; does not include subcontracts with third parties to provide services to the company
Purchase/Sale Agreement (F\$(P)	Individual purchase or sale of a specific asset not related to a joint venture or merger/acquisition/disposition, such as real estate or a single piece of equipment
Rate Agreement/Stipulation	All contracts dealing with rate issues, e.g. rate orders, stipulations, rate case consultants, etc.

<u>Contract Type</u>	<u>Description</u>
Services Agreement (F\$) (P) only if company is receiving the services	Includes agreements where the company is providing specialized services to customers and agreements where the company is engaging outside consulting firms or individuals, such as law firms, architects, etc., or purchasing services such as maintenance, outsourced construction/repair, janitorial, printing, travel, etc.; does not include such agreements relating to rate cases
Settlement Agreement (F)	Settlement of legal claims, including releases and court orders; does not include settlements involving rate cases
Supply Agreement (P)	Supply agreements negotiated by Supply Chain Department
Water Supply/Wastewater Agreement (F)	Bulk purchase or sale, sale for resale and wholesale agreements; wastewater treatment agreements

Agreement to Supply Potable Water Treatment Chemicals

TO: American Water Works Service Company

**Agreement to Supply
Potable Water Treatment Chemicals
For 2008**

THIS AGREEMENT is dated as of the 1st day of January in the year 2008, by and between:

**American Water Works Service Company, Inc.
1025 Laurel Oak Road
P.O. Box 1770
Voorhees, NJ 08043**

(hereinafter called Services)

and

**Applied Specialties, Inc.
33555 Pin Oak Parkway
Avon Lake, OH 44012**

(hereinafter called Chemical Supplier)

Agreement to Supply Potable Water Treatment Chemicals – 2008 Recitals

A. Services desires to purchase from time to time certain Chemicals to be used in water treatment by certain of its affiliates (Users); and

B. Chemical Supplier agrees to provide certain chemicals set forth in Exhibit A (Chemicals) to the Users in accordance with the terms of this Agreement.

NOW, THEREFORE, Services and Chemical Supplier, in consideration of the mutual covenants hereinafter set forth, agree as follows:

ARTICLE 1. PURCHASE TERMS

- 1.1 Chemical Supplier shall supply and deliver each chemical specified in the purchase order supplied by the User locations at the prices set forth in Exhibit A or as otherwise agreed upon in an amended Exhibit A, and in such quantities as Services may from time to time specify on such purchase orders. The quantities set forth are estimates only, and Services reserves to the right to order more or less than such quantities.
- 1.2 The Chemicals provided and delivery thereof shall comply with applicable User's requirements and specifications contained in this Agreement, including but not limited to User's delivery requirements.
- 1.3 The term of this Agreement is from 01/01/2008 until 12/31/2008. Exhibit A, which is attached hereto and incorporated into this Agreement in its entirety, contains the prices of all Chemicals, as well as the period(s) of time in which the prices for such Chemicals will be valid. Any price changes will be incorporated into this Agreement in accordance with Section 10.13 of this Agreement.
- 1.4 Chemical Supplier represents and warrants that prices agreed upon shall be complete, and no additional charges of any type shall be added without Services' express written consent. All prices include, but are not limited to, charges for shipping, delivery, packaging, labeling, custom duties, taxes, storage, insurance, boxing, and crating. Chemical Supplier will not charge Services or User for any demurrage fees or cylinder deposits.
- 1.5 The terms contained in this Agreement (a) are the sole and exclusive terms governing the purchase, sale and delivery of the Chemicals, and (b) supersede any prior terms, representations and warranties relating to the purchase, sale and delivery of the Chemicals. Services and Chemical Supplier acknowledge and agree that it is essential to this Agreement that only the terms contained herein govern the purchase, sale and delivery of the Chemicals, to the exclusion of any different or additional terms contained in any forms or documents sent by either party to the other or that accompany shipment. If Chemical Supplier includes or attaches any different or additional terms in Chemical

Agreement to Supply Potable Water Treatment Chemicals

Supplier's purported acceptance, commences performance, or tenders the Chemicals, only the terms and conditions as stated herein, without inclusion of any different or additional terms and conditions, shall govern the purchase, sale and delivery of the Chemicals.

- 1.6 All Chemicals furnished must strictly conform to the Contract Documents and must be of the quality specified. No deviation or substitution is permitted without the prior written consent of Services. In the event no quality is specified, the Chemicals must be at least equal to American Water Works Association (AWWA) standards. Services shall have the right at all times during the term of this Agreement to conduct such tests and inspections as it deems necessary to assure Chemical Supplier's compliance with this Agreement. Chemical Supplier will supply to Services, as requested by Services, data, specifications, test results, quality documentation, schedules, and other documents and information relating to the Chemicals and this Agreement.

ARTICLE 2. CHEMICAL SUPPLIER'S REPRESENTATIONS AND AGREEMENTS RELATING TO THE CHEMICALS

In order to induce Services to enter into this Agreement, Chemical Supplier makes the following representations and agreements:

- 2.1 Chemical Supplier has familiarized itself with the nature and extent of the Contract Documents, site locality, all local conditions and all laws and regulations that in any manner may affect cost, progress, performance or furnishing and delivering of the Chemicals.
- 2.2 Chemical Supplier will provide an affidavit of compliance with National Sanitation Foundation (NSF) chemical certification (or equivalent) to Services upon request, as well as a "letter of guaranteed supply" by the manufacturer of the Chemicals, that will confirm that Chemical Supplier has committed sufficient quantities of Chemicals to cover Services' annual requirement as set forth in Exhibit A. Polymer suppliers must also complete the Polymer Certification Form in Exhibit B, which is attached hereto and incorporated into this Agreement in its entirety.
- 2.3 When Chemicals purchased hereunder are to be manufactured or produced outside the United States or its territories, Chemical Supplier shall furnish at Services' request documents stating the foreign manufacturers' or producers' names and addresses, and containing written assurances of compliance with U.S.A. standards.
- 2.4 Chemical Supplier has supplied a "product specification sheet", which is attached hereto as Schedule 1 and is incorporated by reference herein, that lists the chemical purity, maximum concentrations of impurities, as well as the chemical properties and physical properties of each Chemical that is to be provided hereunder. During the term of the Agreement, no deviation from that product specification sheet will be permitted, and, upon request, Chemical Supplier will provide Services with periodic quality control reports detailing Chemical quality.

Agreement to Supply Potable Water Treatment Chemicals

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- 2.5 Chemical Supplier shall furnish to Services a load-specific "Certificate of Analysis" of each Chemical. Chemical Supplier must either fax a copy of the "Certificate of Analysis" to each specific User prior to delivery of the Chemicals or provide User with the "Certificate of Analysis" at each delivery. No Chemical deliveries will be accepted without a "Certificate of Analysis."
- 2.6 The cost of supplying and testing of corrosion coupons for field-testing of corrosion rates of Chemicals used for corrosion control purposes shall be included in the Chemical prices as outlined in Exhibit A.
- 2.7 Chemical Supplier shall provide the technological data required for regulatory compliance as defined by OSHA Hazard Communications Standard, 29 CFR 1910.1200; Toxic Substances Control Act Regulations, 40 CFR 710; CERCLA and SARA regulations, 40 CFR 355, 370, 372, 1990 Clean Air Act Amendments, Title III Hazardous Air Pollutants Section 112 (r) Prevention of Accidental Releases, and Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986.

ARTICLE 3. RESPONSIBILITIES OF SERVICES AND USERS

- 3.1 A User shall notify Chemical Supplier at least three (3) days in advance of required deliveries unless otherwise agreed upon in writing.
- 3.2 A User shall provide access to the appropriate locations to permit Chemical Supplier to make deliveries in accordance with the terms of this Agreement.
- 3.3 Services reserves the right of each User to test any delivery prior to unloading. The chemical truck driver is required to obtain a representative sample of Chemicals from the delivery vessel(s) prior to unloading. The delivered Chemical will be checked by the User for clarity, purity, specific gravity, and exact type of Chemical being received. Authorization to unload the Chemical shall be contingent upon this testing.
- 3.4 Services, or any User on Services' behalf, reserves the right to refuse any and all shipments if the Chemicals are not properly identified, packaged, labeled, or accompanied by the proper certificate of analysis or weight tickets, or if the Chemicals do not meet specifications.
- 3.5 If at any time in the opinion of Services or any User, the delivery is not properly lighted, barricaded and safe with respect to public travel, persons on or about the work site or public or private property, Services or such User shall have the right to order such safeguards, and the cost of implementing such safeguards shall be borne by Chemical Supplier.

ARTICLE 4. AGREEMENTS OF CHEMICAL SUPPLIER RELATING TO DELIVERIES

- 4.1 Chemical Supplier shall not delegate or assign any obligation hereunder to any third party without the prior written consent of Services. If Services consents to the use of a third party in fulfillment of this Agreement, all sections application to Chemical Supplier are

Agreement to Supply Potable Water Treatment Chemicals

applicable to the third party, and Chemical Supplier shall be responsible for the performance of such third party and shall indemnify and hold harmless Services and User from any loss, liability or damages related to this Agreement.

- 4.2 All transportation and delivery charges shall be borne by Chemical Supplier. Risk of loss of any Chemical shall not pass to Services until it is actually delivered, accepted, and secured in a User's storage facility in accordance with the terms hereof.
- 4.3 Chemical Supplier shall provide bulk liquid Chemical deliveries in transport vessels dedicated solely to the Chemical delivered and which have all appropriate licenses, permits and authorizations permitting such vessels to be used in the transport of such Chemicals in compliance with applicable environmental and transportation laws and regulations and in accordance with all additional delivery requirements contained in this Agreement. When dedicated Chemical transport vessels are not possible, the applicable User must be notified prior to delivery, and certified vessel cleaning certificates must be provided at the time of delivery. User may inspect the vehicle and/or tank car for anything unusual, such as broken seals and valves. Users may refuse the Chemical shipment if irregularities are identified.
- 4.4 Chemical Supplier shall furnish all necessary equipment to transfer from Chemical Supplier's delivery vehicles into the User's bulk storage vessels or onto the User's properties. Equipment shall include, but not be limited to, short bed delivery vehicles with tailgate lifts for unloading cylinders; dollies/hand trucks; chemical transfer hoses; and all miscellaneous fittings and connections necessary to permit the safe transfer of Chemicals to a User's facility. Chemical Supplier's transfer systems shall be so designed as to minimize the abrasion and loss of Chemicals during and after delivery. Chemical Supplier will ensure that the transfer system will be free of contaminants prior to delivery to User.
- 4.5 Chemical Supplier shall provide at least 24 hours' notice to the applicable User prior to delivery of any Chemicals, unless other arrangements are made with User and confirmed in writing. Chemical Supplier will specify the time and date of each delivery. Deliveries not in compliance with the agreed upon date and time may be refused by the User. Chemical Supplier shall also provide the following information to User via facsimile or email at least 24 hours prior to delivery of any Chemicals:

- Copy of Chemical Supplier delivery person's current driver's license;
- Chemical Supplier delivery vehicle's license plate number;
- Type and quantity of Chemical to be delivered; and
- Seal numbers (if applicable).

Upon arrival of the delivery vehicle, Users will verify the above information. Prior to acceptance of any delivery, the Chemical will be verified by User utilizing industry-accepted (such as AWWA) field tests. Deliveries with missing or inconsistent paperwork will be refused by User.

Agreement to Supply Potable Water Treatment Chemicals

- 4.6 Chemical Supplier will make deliveries to the applicable User in strict compliance with Chemical Supplier's as well as all of the specific User's Chemical delivery policies and procedures. Deliveries not completed on a timely basis may result in termination of this Agreement. Should Chemical Supplier desire to make deliveries other than during User's normal business hours, Chemical Supplier shall make delivery arrangements satisfactory to the applicable User. Each such User may decline requests for such deliveries in its sole discretion.
- 4.7 Chemical Supplier agrees that it will be responsible for the repair of any damage to property caused by Chemical Supplier in delivering the Chemicals, whether to Services' or User's property or the property of third parties, and that any and all repairs to the property of Services, User, or any third party will be made at no cost to Services, User, or that third party.
- 4.8 Chemical Supplier will comply and, if it uses third party haulers or transportation companies, cause such haulers and transporters to comply, with all container and transportation requirements of the Hazardous Materials Transportation Act, 49 U.S.C. §1801 et. seq. and its regulations at 49 C.F.R. §§ 106-107 and 171-179.
- 4.9 Chemical Supplier will ensure that bulk deliveries of Chemicals are accompanied by a certified weight ticket, which will serve as the basis for payment when applicable.
- 4.10 Chemical Supplier will furnish all labels on the Chemical containers in compliance with the Hazardous Materials Transportation Act and the hazard communication provisions of the Occupational Safety and Health Act, 29 U.S.C. §§ 651 et seq. ("OSHA"), including furnishing all complete and accurate Material Safety Data Sheets ("MSDS's") for all Chemicals to be provided hereunder.
- 4.11 Chemical Supplier shall comply with all federal, state, and local transportation regulations that apply to the shipment of "hazardous materials," as defined or regulated by the Hazardous Materials Transportation Act, onto Services' or Users' properties.
- 4.12 Chemical Supplier shall pay for the clean-up and disposal of any spills and/or leaks during Chemical deliveries caused by Chemical Supplier, at no charge to Services or any User. Chemical Supplier shall clean-up and dispose of contamination resulting from any such leaks or spills at its sole cost and expense and in compliance with all federal, state and local environmental and transportation laws and regulations, and in a manner which restores the property to its condition prior to such leaks or spills. Furthermore, Chemical Supplier must obtain any local, state, or federal permits and/or approvals required for the disposal of any wastes generated during Chemical deliveries.
- 4.13 Chemical Supplier will provide for the removal of empty containers, drums, and cylinders, including those that contain residual materials or that have contained a hazardous material or hazardous material mixtures. Neither Services nor any User will be responsible for rinsing any used drums or containers. Chemical Supplier must collect

Agreement to Supply Potable Water Treatment Chemicals

all empty cylinders, drums and pallets on a regular basis at no charge to Services or any User.

- 4.14 Chemical Supplier shall take all reasonable precautions for the safety of, and shall provide all reasonable protection to prevent damage, injury, or loss to, employees, materials, equipment and property. During deliveries of Chemicals, Chemical Supplier will ensure that personal protective equipment shall be worn in accordance with its safety program as well as in accordance with the guidance provided on the Chemical's MSDS.
- 4.15 Services or any User may delay delivery or acceptance of any Chemicals occasioned by causes beyond its control. Chemical Supplier shall hold such Chemicals at the direction of Services and such User and shall deliver them when the cause affecting the delay has been removed. Services shall be responsible only for Chemical Supplier's direct additional transportation costs in returning the Chemicals to Chemical Supplier's facilities. Causes beyond Services' or any User's control shall include but not be limited to, acts of God or the public enemy, acts of terror or war, fire, flood, strike or other labor dispute directly affecting the obligations of the parties hereunder, civil disturbance, or omission by public authority or authorities having proper jurisdiction.

ARTICLE 5. HAZARDOUS CHEMICALS

- 5.1 In accordance with the intent of the Federal Occupational Safety and Health Administration, Standard Section 29 CFR 1910.1200, Hazard Communication with the effective date of May 25, 1986, Services hereby notifies Chemical Supplier that work is to be performed on company property where Chemical Supplier's (or its subcontractor's) employees may be exposed to hazardous materials existing on the premises. Chemical Supplier shall inform its employees and subcontractors of such conditions and ensure that they are adequately informed about the potential hazards of exposure to such Chemicals and are adequately trained to take appropriate precautions to protect against any harm or potential harm from exposure to such materials.
- 5.2 Hazardous chemicals known to be used or stored by the applicable Users are listed on Exhibit C, which is attached hereto and incorporated into this Agreement in its entirety.
- 5.3 Chemical Supplier represents and warrants that each chemical substance constituting or contained in the Chemicals sold or otherwise transferred to User hereunder is on the list of chemical substances compiled and published by the Environmental Protection Agency pursuant to the Toxic Substance Control Act, as amended. Chemical Supplier further represents and warrants that it has delivered, or at the time the first delivery of the materials is made to User Chemical Supplier agrees to deliver, to User any MSDS required to be provided to User pursuant to the applicable OSHA hazard communication standards contained in 29 CFR Chapter XVII, Part 1910.1200, as the same may be amended or supplemented from time to time.

Agreement to Supply Potable Water Treatment Chemicals

ARTICLE 6. TAXES

- 6.1 Services will provide Chemical Supplier with either a direct pay permit for sales tax, an affidavit of sales tax exemption, or an affidavit that the water treatment Chemicals are exempt from sales tax.

ARTICLE 7. PAYMENT PROCEDURES

- 7.1 Chemical Supplier shall invoice Services when the Chemicals have been delivered. Chemical Supplier will include a lien waiver with each invoice. Each invoice shall include the following information 1) User name and specific location of delivery, 2) Chemical description and type of delivery, and 3) concentration and amount of delivery. Services shall not be responsible for payment on account of any refused shipment.
- 7.2 All invoices must be mailed directly to the American Water Shared Services Center for payment processing. Chemical Supplier must invoice the appropriate Users via U.S. mail in accordance with the table below:

Billing PO Boxes	
All invoices should be sent to the following address using the appropriate PO Box:	American Water
	PO Box "Use Box # Below"
	Cherry Hill, NJ 08034
PURCHASER	PO BOX #
American Water Service Company - (Hershey, Alton, Belleville, Pensacola, AM Water Corp.)	5614
Arizona American Water	5613
California American Water	5623
Elizabethtown Water *	5615
Hawaii American Water	5622
Illinois American Water	5626
Indiana American Water	5621
Iowa American Water	5624
Kentucky American Water	5610
Long Island American Water	5611
Maryland American Water	5612
Michigan American Water	5601
Missouri American Water	5605
New Jersey American Water	5602
New Mexico American Water	5604
Ohio American Water	5603
Pennsylvania American Water	5606
Tennessee American Water	5608
Texas American Water	5607
Virginia American Water	5625
West Virginia American Water	5609
AWE	1590

Agreement to Supply Potable Water Treatment Chemicals

Payments shall be remitted to:

Applied Specialties, Inc. – P.O. Box 307, Avon Lake, OH 44012

- 7.3 If a User disputes any invoice or a portion thereof, User shall not pay the disputed portion of such invoice until the parties have resolved such dispute in accordance with the dispute resolution process delineated in Section 10.16 of this Agreement. The undisputed portion of any invoice shall be paid as set forth herein.
- 7.4 If any undisputed fees remain unpaid sixty (60) calendar days after User's receipt of an invoice, Chemical Supplier will notify User in writing of the late payments and, in Chemical Supplier's discretion, the dispute resolution procedures delineated in Section 10.16 shall begin to resolve payment of such fees. If such matter remains unresolved following completion of the dispute resolution process delineated in Section 10.16, then the parties may resolve such dispute through litigation, the losing party bearing all costs of such litigation. All claims for money due or to become due from User shall be subject to deduction or set off by User by reason of this or any other transaction with Chemical Supplier or any User.

ARTICLE 8. INSURANCE

- (a) At no expense to Services or User, Chemical Supplier shall (1) obtain and keep in force during the term of this Agreement, and any renewals or extensions hereof, and (2) require its subcontractors to obtain and keep in force during the terms of their respective contracts, the following minimum insurance limits and coverage. The insurance coverage limits stated below are minimum coverage requirements, not limitations of liability, and shall not be construed in any way as Service's acceptance of the responsibility of Chemical Supplier.

1. Commercial General liability:

- \$1,000,000 per occurrence Combined Single Limits
- \$1,000,000 General Aggregate
- \$1,000,000 Products and Completed Operations Aggregate
- CGL ISO 1996 or later Occurrence form including Premises and Operations Coverage, Products and Completed Operations, Coverage for Independent contractors, Personal Injury Coverage and Blanket Contractual Liability, and Contractors Protective Liability if the Contractor subcontracts to another all or any portion of the Work. Completed Operations shall be maintained for a period of three (3) years following Final Completion for any construction, renovation, repair and or maintenance service.

2. Workers' Compensation

- Applicable Federal or State Requirements: Statutory Minimum
- Employer's Liability
- Each Accident \$1,000,000

Agreement to Supply Potable Water Treatment Chemicals

- Each Employee – Disease \$1,000,000
 - Voluntary workers compensation insurance coverage all employees not subject to applicable workers compensation act or acts
3. Automotive Liability (including owned, hired, borrowed and non-ownership liability)
 - Bodily Injury and Property Damage \$1,000,000 each occurrence Combined Single Limits
 4. Pollution Liability
 - Bodily Injury and Property Damage \$5,000,000 each occurrence Combined Single Limits
 5. Umbrella Liability
 - \$9,000,000 each occurrence and annual aggregate in excess of Employer's Liability,
 - General Liability and Automotive Liability (no more restrictive than underlying insurance)
 6. Chemical Supplier will maintain in full force and effect public liability insurance in the amount required by 49 CFR - Part 387 Subpart A (minimum levels of Financial Responsibility for Motor Carrier of Property in the amount of 5 million dollars.). A copy of the Auto Liability Policy's Form MC-90 shall be submitted with Chemical Supplier's certificate of insurance.
- (b) The minimum liability limits required may be satisfied through the combination of the primary General Liability, Employers' Liability, and Automotive Liability limits with an Umbrella Liability policy (with coverage no more restrictive than the underlying insurance) providing excess limits at least equal to or greater than the combined primary limits.

All Commercial General Liability including completed operations-products liability coverage and Automotive liability insurance shall designate Services, its parent, affiliates and subsidiaries, its directors, officers and employees as an Additional Insured. All such insurance should be primary and non-contributory, and is required to respond and pay prior to any other insurance or self-insurance available to Services. In addition to the liability limits available, such insurance will pay on behalf or will indemnify Services for defense costs. Any other coverage available to Services applies on a contingent and excess basis. Such insurance shall include appropriate clauses pursuant to which the insurance companies shall waive its rights of subrogation against Services.

- (c) Chemical Supplier and any of its subcontractors shall furnish, prior to the start of work, certificates or adequate proof of the foregoing insurance including, if specifically requested by Services, copies of the endorsements and insurance policies naming Services as an Additional Insured. Current certificates of insurance shall be provided prior to the commencement of work and shall be maintained until completion of the Agreement. Chemical Supplier shall notify in writing, at least thirty (30) days prior to cancellation, of or a material change in a policy.

Agreement to Supply Potable Water Treatment Chemicals

- (d) Certificate holder is included as an additional insured with respect to liability arising out of the named insured's operations performed on behalf of holder. Excess policy follows form for Employers Liability, General Liability and Auto Liability Policies without exception and shall be indicated as such with an endorsement from the insurer. Waiver of Subrogation endorsement must accompany certificate of insurance and must include Workers' Compensation policies.
- (e) Carriers providing coverage will be rated by A.M. Best with at least an A-rating and a financial size category of at least Class VII. Such cancellation or material alteration shall not relieve Contractor of its continuing obligation to maintain insurance coverage in accordance with this contract. Carriers shall be licensed in state(s) where work shall be performed.
- (f) If Chemical Supplier shall fail to procure and maintain said insurance, Services, upon written notice, may, but shall not be required to, procure and maintain same, but at the expense of Chemical Supplier. In the alternative, Services may declare a default hereunder and, unless such default is timely cured, terminate the Agreement. Unless and until the default is cured, neither Chemical Supplier nor its servants, employees, or agents will be allowed to enter upon the Service's premises.
- (g) Chemical Supplier must state on its Auto/Truck Certificate of Insurance that it has "no pollution exclusion for products they are transporting in its motor vehicles." If there is no "products pollution exclusion," then the Auto/Truck Liability policy must provide for waiver of subrogation and additional insured status as to Services and its Affiliates. Auto/Truck policy must also provide either blanket contractual liability coverage for contractual liability coverage specific to the product transport contract.
- i. If the Chemical Supplier's Auto policy does contain a "pollution exclusion", then the Chemical Supplier must provide evidence on the Certificate of Insurance that it has obtained either (i) a "Hazardous Cargo Endorsement" on the current policy, or (ii) obtain a "Transporter's Environmental Impairment Liability" policy. With either of these items, the Certificate of Insurance must state that the endorsement or policy includes "loading and unloading activities."
 - ii. With respect to a Transporter's EIL policy or "Hazardous Cargo Endorsement", the limits of liability should not be less than \$2,000,000 for any one occurrence.
 - iii. The "Environmental Impairment Liability" or "Hazardous Cargo Endorsement" coverage is to be written on an "occurrence:" basis. If the coverage can only be obtained on a "claims made" basis, then the Chemical Supplier must provide either one of the two following items:
 - A contractual commitment, which becomes a part of the purchase contract that the Chemical Supplier will "renew the coverage in terms as great and as broad as presently held for at least the next five years", or
 - A commitment on the Certificate of Insurance to provide an "extended reporting provision", also known as a "tail", on the coverage for a period of at least the next five years.

Agreement to Supply Potable Water Treatment Chemicals

- (h) A waiver of subrogation shall be provided to Services and its Affiliates on the Environmental Impairment Liability coverage. Services and its Affiliates shall also be added as "additional insureds" on this same coverage. This coverage must also contain either blanket contractual liability coverage or contractual liability coverage specific to the product transport contract.

ARTICLE 9. CONTRACT DOCUMENTS

The "Contract Documents" which comprise the entire Agreement between Services and Chemical Supplier concerning the Chemicals consist of:

- 9.1 This Agreement
- 9.2 Exhibit A -- Pricing
- 9.2 Exhibit B -- Polymer Certification (attached)
- 9.3 Exhibit C -- Hazardous Chemicals (attached)
- 9.4 Schedule 1 -- Product Specification Sheets

ARTICLE 10. GENERAL**10.1 Indemnity**

Chemical Supplier agrees to indemnify, defend, and hold harmless Services and each User, together with their respective directors, officers, employees and agents, from and against any and all claims, demands, losses, damages, actions, or liability of any kind, including attorneys' fees, arising out of or related to (i) the Chemicals provided under this Agreement or (ii) any breach of any representation or warranty or any other obligation of Chemical Supplier set forth in this Agreement by Chemical Supplier. Services or User shall (i) notify Chemical Supplier in writing about the raised claim in a timely manner; and (ii) authorize Chemical Supplier to lead and settle the legal proceedings (provided that no such settlement shall include an admission of liability or guilt by Services or User without Services' prior written consent) at Chemical Supplier's own cost, with Services and/or User providing reasonable cooperation and support as requested by Chemical Supplier.

10.2 Confidentiality

Chemical Supplier, on behalf of itself and its employees, agrees that any ideas, know-how, concepts, information, or processes received from Services or any User or created by Chemical Supplier in connection with the performance of this Agreement shall be the property of Services or User and shall be preserved in strictest confidence by Chemical Supplier and shall not be used or disclosed by Chemical Supplier to third persons except to the extent that such use or disclosure is necessary for the proper performance of this Agreement. If disclosure to third persons is necessary, Chemical Supplier shall ensure that such third persons hold such information in strictest confidence.

10.3 Patents

By accepting this Agreement, Chemical Supplier agrees to defend, protect and save harmless Services and each User, and their successors and assigns, from and against any and all liability, damages, loss and expense (including reasonable attorney's fees) by reason of any claim, demand, action or litigation arising out of any alleged or actual, direct or contributory, infringement of any United States or foreign patent arising out of the purchase, sale or use of the Chemicals. Chemical Supplier agrees to notify Services of any potential illegalities connected with the Chemicals. Services and User agree to notify Chemical Supplier promptly of any such claim of which Services or User become aware and to provide Chemical Supplier all reasonable information and assistance (at Chemical Supplier's expense) as may become necessary for defense of the claim. Chemical Supplier shall pay all damages and costs, if any, which may be awarded therein. In case the claim regards the use of the Chemicals, Chemical Supplier shall at its own expense and at its option, either procure for Services and User the right to continue using said Chemicals, or replace same with a non-infringing equivalent, or remove same at Chemical Supplier's sole cost and expense, and refund the purchase price and all transportation, and other charges, duties or fees paid by Services and User in connection with the purchase thereof.

10.4 Compliance with Laws

Chemical Supplier shall, in its performance of this Agreement, procure all necessary permits, comply with all applicable federal, state, and local statutes, rules of law, ordinances, regulations, and regulatory orders, including but not limited to the Fair Labor Standards Act of 1938, as amended, Walsh-Healy Act, Robinson-Patman Act, applicable State Workers' Compensation laws, state and federal Occupational Safety and Health Acts, and all rules and regulations passed pursuant thereto, which are incorporated herein by this reference. Chemical Supplier agrees to be subject to all applicable contract clauses required by federal, state or local law, rule or regulation to be included in this Agreement.

10.5 Assignments

No assignment by Chemical Supplier of any rights under or interests in the Agreement will be binding on Services or any User without the written consent of Services; and specifically but without limitation monies that may become due and monies that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Agreement documents.

10.6 Successor and Assigns

Services and Chemical Supplier each binds itself, its partners, successors, assignees and legal representatives to the other party hereto, its partners successors, assigns and legal

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representatives in respect of all covenants, agreements and obligations contained in the Contract Documents.

10.7 THIS SECTION INTENTIONALLY LEFT BLANK.

10.8 Termination

This Agreement may be terminated by Services fifteen (15) calendar days from the date of written notice for the sole convenience of Services or at any time with written notice if Chemical Supplier fails to comply with the terms of the Contract Documents. If so terminated, Services shall pay Chemical Supplier all undisputed amounts due Chemical Supplier for all Chemicals delivered up to the date of Chemical Supplier's receipt of notice of termination.

10.9 Rights and Benefits

Chemical Supplier's obligations hereunder will be performed solely for the benefit of Services and Users and not for the benefit of any other persons or entities.

10.10 Time of Completion

Time is of the essence in the performance of Chemical Supplier's obligations described in this Agreement. At the outset of any delay from any cause, Chemical Supplier shall immediately notify Services in writing of the delay or anticipated delay and shall undertake to shorten the delay by all reasonable means. Chemical Supplier shall be solely responsible for the cost of overcoming delays unless such delays are caused by Services or any User.

10.11 Governing Law; Severability

10.11.1 This Agreement shall be governed by the Uniform Commercial Code provisions applicable to transactions in goods. This Agreement shall be governed and construed in accordance with the laws of the State of New Jersey, without reference to or application of conflict of laws, rules, or principles.

10.11.2 If any one or more of the provisions contained within this Agreement is deemed invalid, illegal, or otherwise unenforceable by a court of competent jurisdiction, the provision of the Agreement will be enforced to the maximum extent permissible and the remainder of the provisions of this Agreement will remain in full force and effect. Chemical Supplier and Services or User mutually agree to substitute any invalid, illegal or unenforceable provision of this Agreement with a valid, legal, or enforceable provision which comes as close as possible to the reasonably inferred intent of the invalid, illegal, or unenforceable provision.

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10.12 Survival

Chemical Supplier's agreements set forth herein shall survive the termination of this Agreement.

10.13 Entire Agreement

This Agreement constitutes the entire understanding and agreement between Chemical Supplier and Services relating to the subject matter herein, and except as expressly set forth herein, supersedes any and all prior or contemporaneous agreements or understandings, whether oral or written, relating to the subject matter herein. Any waiver, modification or amendment of any provision of this Agreement will be effective only if in writing and signed by duly authorized representatives of the parties.

10.14 Waiver

Services' or Users' failure to insist on performance of any of the terms or conditions herein or to exercise any right or privilege or Services' or Users' waiver of any breach hereunder shall not thereafter waive any other terms, conditions, privileges, whether of the same or similar type.

10.15 Notices

All notices required or permitted under this Agreement from one party to another under or in connection with this Agreement shall be in writing (or shall be made by a telecommunications device capable of creating a written record), and shall be delivered to Services and Chemical Supplier at their contact addresses specified below. Notices shall be deemed received at the time they are actually received by the receiving party. Either party may change its address for notices under this Agreement by giving written notice to the other party by the means specified in this Section 10.15.

The respective addresses for giving notices hereunder are as follows:

A. Applied Specialties, Inc.
Erin Friend
Bid Service Coordinator
33555 Pin Oak Parkway
Avon Lake, OH 44012

B. To Services:
Gerald J. Coyne
Senior Buyer
American Water
1025 Laurel Oak Road
Voorhees, New Jersey 08043

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10.16 Dispute Resolution

10.16.1 The intent of the parties is to identify and resolve disputes promptly after any dispute arises. Before attempting to exercise any legal or equitable remedy, each party agrees to follow the dispute resolution procedure described below. Except as provided otherwise elsewhere in this Agreement, if either party determines that following the procedure described below in this Section 10.16 could potentially be harmful or damaging to their respective businesses or third-party suppliers, that party may elect to forego the dispute resolution process and pursue injunctive relief.

10.16.2 Escalation of Dispute. If there is a dispute between the parties arising out of this Agreement, each party agrees to engage in good faith negotiations between progressively more senior representatives of each party, as follows.

<i>Level</i>	<i>Representatives of the Parties</i>	<i>Maximum Duration of Negotiations Prior to Escalation to Next Level</i>
One	Services: Chemical Buyer Chemical Supplier: Applied Specialties, Inc.	5 business days
Two	Services: Director of Supply Chain Department Chemical Supplier: Applied Specialties, Inc.	5 business days
Three	Services: COO or American Water's designee Chemical Supplier: Applied Specialties, Inc.	7 business days

Either party may at any time change its representative party designated above by providing written notice to the other party.

If such matter remains unresolved following the negotiations and the expiration of the periods specified above in this Section 10.16.2, each party may immediately exercise or pursue any other rights or remedies available hereunder or at law or in equity, and it is acknowledged by the parties that nothing herein shall preclude, limit, or otherwise restrict any legal or equitable remedies available to either party for failure of the other party to perform its obligations under this Agreement.

10.17 Use of Logo

Chemical Supplier shall not, without Services' express written permission, (i) use Services' name, nor any trade name, logo, trademark, or service mark, whether registered

Agreement to Supply Potable Water Treatment Chemicals

or not, or the name, assumed business name, trade name, logo, trademark, or service mark, whether registered or not, of any User, in connection with publicity, advertisements, promotion or in any other connection, or (ii) identify Services or Users in any manner on customer or vendor lists or on a web site (or on any third party web site) or in any web site metatags; or (iii) disclose to any third party the existence of this Agreement or the monetary value of any Chemicals purchased hereunder. Chemical Supplier shall indemnify Services for reasonable costs and expenses incurred in connection with enforcing the provisions of this Section 10.17. All of the restrictions and obligations set forth in this Section 10.17 shall survive any termination of this Agreement.

10.18 EEOC

Chemical Supplier specifically warrants and guarantees to Services:

(a) that it agrees to comply with Executive Order 11246 and abide by the provisions of the "Equal Opportunity Clause" at 41 CFR § 60-1.4, which is incorporated herein by reference, unless exempt pursuant to 41 CFR § 60-1.5;

(b) that it agrees to comply with the Vietnam Era Veterans Readjustment Assistance Act of 1974, as amended, Executive Order 11701 (Employment of Veterans by Federal Agencies and Government Contractors and Subcontractors), and the provisions of the "Affirmative Action for Disabled Veterans and Veterans of the Vietnam Era Clause" at 41 CFR §60-250.5, which is incorporated herein by reference, unless exempt pursuant to 41 CFR §60-250.4.

(c) that it agrees to comply with the Rehabilitation Act of 1973, Executive Order 11758 (Authority Under Rehabilitation Act of 1973), and the provisions of the "Affirmative Action for Workers With Disabilities Clause" at 41 CFR 60-741.5, which is incorporated herein by reference, unless exempt pursuant to 41 CFR §60-741.4;

(d) that it agrees to comply with Executive Order 13201 (Notice of Employee Rights Concerning Payment of Union Dues or Fees) and abide by the provisions of the clause at 29 CFR § 470.2, which is incorporated herein by reference, unless exempt pursuant to 29 CFR §§ 470.3-.4;

(e) that it agrees to comply, where applicable, with the policies set forth in Executive Order 11625 (National Program for Minority Business Enterprises) and Executive Order 12138 (National Program for Women's Business Enterprise), the Small Business Act, 15 U.S.C. § 631, et seq., and with the "Utilization of Small Business Concerns" and "Small Business Subcontracting Plan" clauses at 48 CFR § 52.219-8 and 9, respecting subcontracting with small disadvantaged, female-owned, veteran-owned, service-disabled veteran-owned, HUBZone, and other small businesses.

10.19. Standards of Personnel

Agreement to Supply Potable Water Treatment Chemicals

- 10.19.1 Chemical Supplier acknowledges that the Federal Government has declared public- water systems, including Services', to be critical infrastructure essential to the continued operation of the government and the nation.
- 10.19.2 Chemical Supplier acknowledges that Services' water and wastewater operations are governed by numerous federal and state statutes and regulations, and subject to regulation by numerous federal and state agencies.
- 10.19.3 Chemical Supplier acknowledges that, among other things, Services provides retail water and wastewater service to the public, as authorized and regulated by public utility commissions, so that Services has a public-service obligation to provide safe and affordable water and wastewater service to the public.
- 10.19.4 Chemical Supplier will conduct, or will have conducted, a background check on each of its employees or individual subcontractors before the employee or subcontractor performs any function or activity under this Agreement that involves access to Services' confidential information or on-site work at any of Services' or Users' facilities. The background check conducted by Chemical Supplier will include at least the following:
- Previous employers and dates of employment;
 - Education;
 - Professional License verification;
 - Military Service Verification;
 - Driving record;
 - Criminal history (state and federal);
 - References;
 - Credit history or social security number trace; and
 - Personal history to the extent permitted by applicable laws and regulation.
- 10.19.5 Chemical Supplier's review of this information will endeavor to:
- authenticate the identity of the individual;
 - insure that data is consistent with an individuals stated history and current status;
 - uncover any discrepancies;
 - reveal any criminal history; and
 - uncover any other pertinent information tending to establish that the individual may represent a security risk to Services' personnel, facilities, or Services' responsibility for the public safety and the providing of safe and adequate utility services to its customers.
- 10.19.6 Before delivering any Chemicals hereunder, Chemical Supplier will provide proof to Services that the requirements of this section have been met. Upon request, Chemical Supplier will make available for Services' review, the documentation and results of the background check with respect to any employee of Chemical Supplier performing deliveries of Chemicals under this Agreement. Services will not retain such records or documentation and any findings from its review will be confidential.

ARTICLE 11. REPRESENTATIONS AND WARRANTIES

- 11.1 Chemical Supplier represents and warrants to Services that all Chemicals will be in accordance with Services' specifications and requirements. Chemical Supplier represents and warrants that all Chemicals will conform to any statements made on the containers or labels or advertisements for such Chemicals, and that any Chemicals will be adequately

Agreement to Supply Potable Water Treatment Chemicals

contained, packaged, marked, and labeled. Chemical Supplier represents and warrants that all Chemicals furnished hereunder will be merchantable, and will be safe and appropriate for the purpose for which Chemicals of that kind are normally used. Chemical Supplier knows that such Chemicals will be used in potable water treatment and represents and warrants that such Chemicals will be fit for such purpose. Chemical Supplier represents and warrants that Chemicals furnished will conform in all respects to any samples provided to Services or Users. Inspection, test, acceptance or use of Chemicals furnished hereunder shall not affect Chemical Supplier's obligation under this warranty, and such representations and warranties shall survive inspection, test acceptance and use. All of Chemical Supplier's representations and warranties shall run to Services, the Users and their respective successors, assigns and customers. Chemical Supplier will replace or correct defects of any Chemicals not conforming to the foregoing warranties promptly, without expense to Services (including, but not limited to, any expenses relating the removal, transportation and disposal of such non-conforming and/or defective Chemicals), when notified of such nonconformity by Services or any User, provided Services or such User elects to provide Chemical Supplier with the opportunity to do so. In the event of failure of Chemical Supplier to correct defects in or replace nonconforming Chemicals promptly, Services, after reasonable notice to Chemical Supplier, may make such corrections or replace such Chemicals and charge Chemical Supplier for the cost incurred by Services in doing so.

- 11.2 Chemical Supplier represents and warrants that the cylinders and containers delivered to Services are free from defects, routinely inspected and maintained. Leaking containers will be rejected by the Services, and any cost of removal, transport, and disposal of such containers shall be borne solely by Chemical Supplier.
 - 11.3 Chemical Supplier represents and warrants that: (i) it is capable in all respects of providing all Chemicals in accordance with this Agreement; and (ii) it understands the nature and scope of Chemicals to be provided hereunder.
 - 11.4 Chemical Supplier represents and warrants that, as of the Effective Date, there is no pending or threatened outstanding litigation, arbitrated matter, or other dispute to which Chemical Supplier is a party, that, if decided unfavorably to Chemical Supplier, could reasonably be expected to have a potential or actual material adverse effect on Chemical Supplier's ability to fulfill its obligations hereunder, and that Chemical Supplier knows of no basis that might give rise to any such litigation, arbitration, or other dispute in the foreseeable future. Upon becoming aware of any such basis, Chemical Supplier shall promptly notify Services thereof.
 - 11.5 Chemical Supplier warrants that, in providing the Chemicals and in otherwise performing its obligations under this Agreement, Chemical Supplier shall comply, and, to the extent within Chemical Supplier's control, shall not prevent Services or its affiliates from complying or materially impede them in complying, with all applicable laws, regulations, and ordinances of any relevant jurisdiction, and all applicable policies of Services and its affiliates, including but not limited to those pertaining to personnel and security.
-

Agreement to Supply Potable Water Treatment Chemicals

IN WITNESS WHEREOF, Services and Chemical Supplier have signed this Agreement in duplicate as of the date last signed below (the "Effective Date"). One counterpart each has been delivered to Services and Chemical Supplier.

**American Water Works Service
Company, Inc.**

By: 

Date: 4/10/08

Attest: 

Chemical Supplier:

By: 

Date: February 27, 2008

Attest: 

Agreement to Supply Potable Water Treatment Chemicals

EXHIBIT B – POLYMER CERTIFICATION

**American Water Works Service Company, Inc.
TO BE SUBMITTED FOR POLYMER BIDS ONLY
Acrylamide/Epichlorohydrin Certification Sheet
For the Calendar Year 2008**

Product: AS-1200Manufacturer: Applied Specialties, Inc.Supplier: Applied Specialties, Inc.

Please check the appropriate boxes in each applicable category of both the acrylamide and epichlorohydrin certification below, and supply the composition information where applicable.

ARTICLE 12.ACRYLAMIDE CERTIFICATION

- ☐ I certify that the above named product does not contain acrylamide, OR
- ☒ I certify that the acrylamide level in the above named product does not exceed 0.05% when added to water at a level of 1 mg/l.

OR

- ☐ I certify that the above named product contains _____% acrylamide, and that the product should not be used at a dosage rate above _____mg/l.

EPICHLOROHYDRIN CERTIFICATION

- ☐ I certify that the above named product does not contain epichlorohydrin. OR
- ☐ I certify that the epichlorohydrin level in the above named product does not exceed 0.01% when added to water at a level of 20 mg/l.

OR

- ☐ I certify that the above named product contains _____% epichlorohydrin and that the product should not be used at a dosage rate above _____mg/l.

The above information is, to the best of my knowledge, true and correct.

C. Scheurman

Name

Signature

Applied Specialties, Inc.

Company

February 27, 2008

Date

EXHIBIT C – HAZARDOUS CHEMICALS

The following hazardous materials are stored on site and/or used in the water treatment process by Services:

1. Aluminum Sulfate
2. Chlorine
3. Hydrofluosilicic Acid
4. Gasoline
5. Propane
6. Sodium Metabisulfite
7. Powdered Activated Carbon
8. Orthophosphoric Acid
9. Potassium Permanganate
10. Ferric Chloride
11. Ferric Sulfate
12. Sodium Hydroxide
13. Ammonia
14. Ammonium Sulfate
15. Diesel Fuel
16. Polyaluminum Chloride
17. Soda Ash
18. Sodium Hypochlorite
19. Sodium Polyphosphates

Agreement to Supply Potable Water Treatment Chemicals

SCHEDULE 1 – PRODUCT SPECIFICATION **SHEETS**

ACORD CERTIFICATE OF LIABILITY INSURANCE		CSR IM APPLI-1	DATE (MM/DD/YYYY) 01/10/08
PRODUCER Fitzgibbons Arnold & Company P.O. Box 45520 Cleveland OH 44145-0520 Phone: 800-837-3640		THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.	
INSURED Applied Specialties, Inc. 33555 Pin Oak Parkway Avon Lake, OH 44012		INSURERS AFFORDING COVERAGE	NAIC #
		INSURER A: Zurich American Insurance Co.	
		INSURER B: Steadfast Insurance Company	
		INSURER C: The Hartford	
		INSURER D:	
		INSURER E:	

COVERAGES

THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.							
INSR	ADD'L LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS	
A	X	GENERAL LIABILITY	GL0903666500	04/01/07	04/01/08	EACH OCCURRENCE	\$ 1,000,000
		<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY				DAMAGE TO RENTED PREMISES (Ea occurrence)	\$ 100,000
		<input type="checkbox"/> CLAIMS MADE <input checked="" type="checkbox"/> OCCUR				MED EXP (Any one person)	\$ 5,000
		<input checked="" type="checkbox"/> XCU				PERSONAL & ADV INJURY	\$ 1,000,000
		<input checked="" type="checkbox"/> Stop Gap				GENERAL AGGREGATE	\$ 2,000,000
		GEN'L AGGREGATE LIMIT APPLIES PER:				PRODUCTS - COMP/OP AGG	\$ 2,000,000
		<input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC				Stop Gap	1,000,000
A		AUTOMOBILE LIABILITY	BAP9036668	04/01/07	04/01/08	COMBINED SINGLE LIMIT (Ea accident)	\$ 1,000,000
		<input checked="" type="checkbox"/> ANY AUTO				BODILY INJURY (Per person)	\$
		<input type="checkbox"/> ALL OWNED AUTOS				BODILY INJURY (Per accident)	\$
		<input checked="" type="checkbox"/> HIRED AUTOS				PROPERTY DAMAGE (Per accident)	\$
		<input type="checkbox"/> NON-OWNED AUTOS					
A		<input checked="" type="checkbox"/> Auto Pollution					
		GARAGE LIABILITY				AUTO ONLY - EA ACCIDENT	\$
		<input type="checkbox"/> ANY AUTO				OTHER THAN AUTO ONLY: EA ACC	\$
						AGG	\$
B		EXCESS/UMBRELLA LIABILITY	SEO9036671	04/01/07	04/01/08	EACH OCCURRENCE	\$ 4,000,000
		<input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> CLAIMS MADE				AGGREGATE	\$ 4,000,000
		<input type="checkbox"/> DEDUCTIBLE					\$
		<input checked="" type="checkbox"/> RETENTION \$10,000					\$
							\$
C		WORKERS COMPENSATION AND EMPLOYERS' LIABILITY	45WECTF5867	07/23/07	04/01/08	<input checked="" type="checkbox"/> WC STATUTORY LIMITS <input type="checkbox"/> OTHER	
		ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED?				E.L. EACH ACCIDENT	\$ 1,000,000
		If yes, describe under SPECIAL PROVISIONS below				E.L. DISEASE - EA EMPLOYEE	\$ 1,000,000
						E.L. DISEASE - POLICY LIMIT	\$ 1,000,000
B		OTHER				Limits	\$5,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES / EXCLUSIONS ADDED BY ENDORSEMENT / SPECIAL PROVISIONS

Certificate holder is additional insured per written contract. 10 days notice of cancellation applies for non-payment.

CERTIFICATE HOLDER**AMERIC9**

American Water Works Service
Company, Inc.
1025 Laurel Oak Road
Voorhees NJ 08043

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO DO SO SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE



Applied Specialties, Inc.
33555 Pin Oak Parkway
Avon Lake, Ohio 44012

AS-1200

072841200-3
October 11, 2007
Telephone (440) 933-9442
Emergency: (216) 973-6118

MATERIAL SAFETY DATA

SECTION 1 MATERIAL IDENTIFICATION

PRODUCT NAME OR AS-1200
SYNONYMS NONIONIC POLYACRYLAMIDE IN WATER -IN-OIL EMULSION

SECTION 2 INGREDIENTS AND HAZARDS

COMPONENT	CAS. NUMBER	%	TWA/CEILING	REFERENCE
Nonylphenol ethoxylate	9016-45-9	~2.1	Not Established	
Petroleum distillate hydrotreated light	64742-47-8	~25.00	500 PPM	OSHA
Ammonium Sulfate	7783-20-2	~2.00	Not Established	

Emergency Overview: White, Viscous Liquid; Hydrocarbon Odor. Warning! Causes Eye And Skin Irritation. Spills Are Extremely Slippery.

SECTION 3 REGULATORY INFORMATION

OSHA STATUS This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard.

TSCA STATUS All components are listed

CERCLA REPORTABLE QUANTITY No components listed

SARA TITLE III:

SECTION 302 (EXTREMELY HAZARDOUS SUBSTANCE) Not Listed

SECTION 311/312 (HAZARDOUS SUBSTANCES)

Classification Under Section 311/312 of SARA (40 CFR 370): Acute (Yes) Chronic (No) Fire (No) Reactive (No) Pressure (No)

SECTION 313 (TOXIC CHEMICALS) SUPPLIER NOTIFICATION:

This product contains the following toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community RIGHT-TO-KNOW ACT of 1986 (40 CFR 372):

Ammonium Sulfate CAS 7783-20-2 ~2.00%

RCRA STATUS Not Listed.

OSHA, ACGIH, NTP & IARC STATUS None of the ingredients are listed.

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

HEALTH - 2 FIRE - 1 REACTIVITY - 0

- 0 MINIMAL
- 1 SLIGHT HAZARD
- 2 MODERATE HAZARD
- 3 SERIOUS HAZARD
- 4 SEVERE HAZARD

Chemical identity of some ingredients may be withheld as confidential as permitted by 29 CFR 1910.1200 and various State right to know laws.

Applied Specialties, Inc.
33555 Pin Oak Parkway
Avon Lake, Ohio 44012

AS-1200

072841200-3

October 11, 2007

Telephone (440) 933-9442

Emergency: (216) 973-6118

FIRST AID

SKIN CONTACT: Skin that becomes contaminated should be washed with water to remove any chemical from skin. Contaminated clothing should be removed and wash the skin with soap and water. Clothing should be washed before it is reused. If irritation is present, get medical attention.

EYE CONTACT: If material gets into the eyes, flush the eyes immediately with large amounts of water for at least 30 minutes, lifting the lower and upper lids occasionally. Get medical attention immediately. Contact lenses should not be worn when working with this substance or any other chemical.

INHALATION: If a person breathes in large amounts of product mist, move the person to fresh air. If breathing has stopped, perform artificial respiration. Keep the affected person warm and at rest. Get medical attention as soon as possible.

INGESTION: If a person swallows product, get medical attention immediately. Only induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person. Aspiration of petroleum distillates may cause chemical pneumonitis.

SECTION 5 PHYSICAL DESCRIPTION

APPEARANCE AND ODOR	White viscous Liquid; Hydrocarbon odor.
BOILING POINT	~175 °C 347 °F (for oil phase)
MELTING POINT	18 °C 0 °F
FLASH POINT	>200 °F (Closed Cup method)
VAPOR PRESSURE	Not Available
SPECIFIC GRAVITY	~ 1.00 +/- 0.02 g/ml
PRODUCT pH	4.00 - 6.00 @ 5 g/L standard pH units
SOLUBILITY IN WATER	Appreciable

SECTION 6 INCOMPATIBILITIES AND STORAGE

Stable

Hazardous Polymerization Will Not Occur

Incompatible With Strong Oxidizing Agents. This material reacts slowly with iron, copper, and aluminum resulting in corrosion and product degradation.

Hazardous Decomposition Products: Carbon Monoxide, Carbon Dioxide, Ammonia, Oxides Of Nitrogen

Keep Containers Closed When Not In Use Store Containers With Labels Visible

To avoid product degradation and equipment corrosion, do not use iron, copper, or aluminum containers or equipment.

SECTION 7 REGULATIONS/OSHA

OSHA Standard 29 CFR 1910.1200	HAZARD COMMUNICATION
OSHA Standard 29 CFR 1910.1000	AIR CONTAMINANTS Table Z-1
OSHA Standard 29 CFR 1910.94	VENTILATION
OSHA Standard 29 CFR 1910.134	RESPIRATORY PROTECTION
OSHA Standard 29 CFR 1910.20	ACCESS TO EMPLOYEE EXPOSURE
OSHA Standard 29 CFR 1910.132	PERSONAL PROTECTIVE EQUIPMENT
OSHA Standard 29 CFR 1910.141	SANITATION
OSHA Standard 29 CFR 1910.151	MEDICAL SERVICES AND FIRST AID
OSHA Standard 29 CFR 1910.133	EYE AND FACE PROTECTION

Applied Specialties, Inc.
33555 Pin Oak Parkway
Avon Lake, Ohio 44012

AS-1200

072841200-3

October 11, 2007

Telephone (440) 933-9442

Emergency: (216) 973-6118

SECTION 12 ECOLOGICAL INFORMATION

This material is not classified as dangerous for the environment. All ecological information provided was conducted on a structurally similar product.

Algae Test Results:

Test: Growth Inhibition (OECD 201)

Duration: 72 hr

Species: Green algae (*Selenastrum capricornutum*) >100 mg/L IC_{50}

Fish Test Results:

Test: Acute toxicity, freshwater (OECD 203)

Duration: 96 hr

Species: Bluegill Sunfish (*Lepomis macrochirus*) >100 mg/L LC_{50}

Test: Acute Toxicity, freshwater (OECD 203)

Duration: 96 hr

Species: Rainbow Trout (*Oncorhynchus mykiss*) >100 mg/L LC_{50}

Invertebrate Test Results

Test: Acute Immobilization (OECD 202)

Duration: 48 hr

Species: Water Flea (*Daphnia magna*) >100 mg/L EC_{50}

Helvia García-Muñoz

<p>This information is given without any warranty or representation. We do not assume any legal responsibility for same, nor do we give permission, inducement, or recommendation to practice any patented invention without a license. It is offered solely for your consideration, investigation and verification. Before using any product, read its label carefully and completely.</p>

Applied Specialties, Inc.
33555 Pin Oak Parkway
Avon Lake, Ohio 44012

AS-2820

072072820-7
July 26, 2007
Telephone (440) 933-9442
Emergency: (216) 973-6118

MATERIAL SAFETY DATA**SECTION 1 MATERIAL IDENTIFICATION**

PRODUCT NAME OR
SYNONYMS

AS-2820
COAGULANT AID



certified with a maximum use
for potable water of 200 mg/L.

SECTION 2 INGREDIENTS AND HAZARDS

COMPONENT	CAS. NUMBER	%	TWA/CEILING	REFERENCE
Ferric Chloride	7705-08-0	<41%	1 mg/m ³ (as iron salts)	ACGIH
Hydrochloric Acid	7647-01-0	<5	5 ppm (Ceiling)	OSHA PEL
1,2-Ethanediamine, polymer with (chloromethyl) oxirane and N-methylmethanamine	42751-79-1		Not Established	

Emergency Overview: Dark Red-Brown Liquid; Sharp Odor. DANGER! Corrosive. Causes Burns To Eyes, Skin And All Tissues. Harmful If Inhaled.

SECTION 3 REGULATORY INFORMATION

OSHA STATUS This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard

TSCA STATUS All components are listed

CERCLA REPORTABLE QUANTITY Ferric Chloride - 1,000 Pounds

SARA TITLE III:

SECTION 302 (EXTREMELY HAZARDOUS SUBSTANCE) None

Section 311/312 (Hazardous Substances)

Classification Under Section 311/312 Of Sara (40 CFR 370): Acute (Yes) Chronic (Yes) Fire (No) Reactive (No) Pressure (No)

SECTION 313 (TOXIC CHEMICALS) None

RCRA STATUS RCRA hazardous based on pH (D002). Empty containers are also hazardous and should be handled accordingly

NTP, OSHA, ACGIH & IARC STATUS None of the ingredients are listed.

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)			0 MINIMAL
			1 SLIGHT HAZARD
			2 MODERATE HAZARD
			3 SERIOUS HAZARD
			4 SEVERE HAZARD
HEALTH - 2	FIRE - 0	REACTIVITY - 1	

Chemical identity of some ingredients may be withheld as confidential as permitted by 29 CFR 1910.1200 and various State right to know laws.

Applied Specialties, Inc.
33555 Pin Oak Parkway
Avon Lake, Ohio 44012

AS-2820

072072820-7
July 26, 2007
Telephone (440) 933-9442
Emergency: (216) 973-6118

SECTION 5 PHYSICAL DESCRIPTION

APPEARANCE AND ODOR	Dark red-brown liquid; sharp odor.
BOILING POINT	Not determined
MELTING POINT	Not applicable
FLASH POINT	Not applicable
VAPOR PRESSURE	Not determined
SPECIFIC GRAVITY	1.35 +/- 0.02 g/ml
PRODUCT pH	<1.00 standard pH units
SOLUBILITY IN WATER	Complete

SECTION 6 INCOMPATIBILITIES AND STORAGE

Stable

Hazardous Polymerization Will Not Occur

Incompatibility: Most Metals - Aluminum/Aluminum Alloys, Carbon Steel, Copper/Copper Alloys, And Nylon. Avoid Contact With Alkaline Materials. Do Not Store In Metal Containers. Provide Venting For Rubber-Lined Steel To Avoid Pressure Build-Up If Failure Occurs. Avoid Contact With Strong Reducing Agents
May React With Metals And Generate Hydrogen. Avoid Pressure Build-Up Or Ignition Sources.
May Release Hydrogen Chloride Gas At Elevated Temperatures.
Store Containers With Labels Visible

SECTION 7 REGULATIONS/OSHA

OSHA Standard 29 CFR 1910.1200	HAZARD COMMUNICATION
OSHA Standard 29 CFR 1910.1000	AIR CONTAMINANTS Table Z-1
OSHA Standard 29 CFR 1910.94	VENTILATION
OSHA Standard 29 CFR 1910.134	RESPIRATORY PROTECTION
OSHA Standard 29 CFR 1910.20	ACCESS TO EMPLOYEE EXPOSURE
OSHA Standard 29 CFR 1910.132	PERSONAL PROTECTIVE EQUIPMENT
OSHA Standard 29 CFR 1910.141	SANITATION
OSHA Standard 29 CFR 1910.151	MEDICAL SERVICES AND FIRST AID
OSHA Standard 29 CFR 1910.133	EYE AND FACE PROTECTION

SECTION 8 EMERGENCY HANDLING OF HAZARDOUS MATERIALS

IF MATERIAL IS ON FIRE OR INVOLVED IN FIRE:

Use water in flooding quantities as a fog. Use water spray, fog, foam, dry chemical, carbon dioxide CO₂ or dry chemical extinguishers or any agents suitable for surrounding fire. Keep drums cool. Closed containers may heat above the boiling point and rupture violently. During fire, irritating and toxic gases of hydrogen chloride may be generated by thermal decomposition.

IF MATERIAL IS NOT ON FIRE OR NOT INVOLVED IN FIRE:

Keep material out of water sources and sewers. Contain and collect.

PERSONAL DANGER SITUATION PROTECTION:

Keep upwind. Avoid breathing dust/vapors/fumes from material. Avoid bodily contact with material. Wear boots, protective gloves and gas-tight goggles. Wear full protective clothing (regular FIRE FIGHTERS' gear is inadequate).

Applied Specialties, Inc.
33555 Pin Oak Parkway
Avon Lake, Ohio 44012

AS-2820

072072820-7
July 26, 2007
Telephone (440) 933-9442
Emergency: (216) 973-6118

PENNSYLVANIA and MASSACHUSETTS RIGHT-TO-KNOW INFORMATION:

The following comprises the CHEMICAL IDENTIFICATION LIST

	<u>CAS #</u>
Ferric Chloride	7705-08-0
Hydrochloric Acid	7647-01-0
1,2-Ethanediamine, polymer with (chloromethyl) oxirane and N-methylmethanamine	42751-79-1

NEW JERSEY RIGHT-TO-KNOW TOTAL INGREDIENTS LABEL:

	<u>CAS #</u>
Ferric Chloride	7705-08-0
Hydrochloric Acid	7647-01-0
1,2-Ethanediamine, polymer with (chloromethyl) oxirane and N-methylmethanamine	42751-79-1

CALIFORNIA PROPOSITION 65:

This product does not contain toxic chemicals currently on the California list of known carcinogens and reproductive toxins

Pursuant to the California Safe Drinking Water and Toxic Enforcement Act of 1986 (proposition 65), this information is provided. This law requires that "clear and reasonable warning" be provided to any individual, knowingly or intentionally exposed to any substances identified by the state as being cancer or reproductive hazards unless, it can be shown that the exposure poses "no significant risk". Based on available data, the following chemicals listed by Proposition 65 may be present in this product:

NONE

MATERIAL SAFETY DATA SHEET

SECTION 1 MATERIAL IDENTIFICATION

PRODUCT NAME OR
SYNONYMS

AS-3035
COAGULANT AID



certified with a maximum use
for potable water of 187 mg/L.

SECTION 2 INGREDIENTS AND HAZARDS

COMPONENT	CAS. NUMBER	%	TWA/CEILING	REFERENCE
Aluminum chloride hydroxide	1327-41-9	36.48 – 40.32%	2 mg/m ³ (AI)	ACGIH
1,2-Ethanediamine, polymer with (chloromethyl) oxirane and N-methylmethanamine	42751-79-1	<10.0%	NOT ESTABLISHED	

Emergency Overview : Clear Colorless To Amber Liquid; No Appreciable Odor. Danger! May Cause Eye And Skin Irritation. Corrosive Material.

SECTION 3 ENVIRONMENTAL INFORMATION

OSHA STATUS This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard

TSCA STATUS All components are listed

CERCLA REPORTABLE QUANTITY No components are listed

SECTION 302 (EXTREMELY HAZARDOUS SUBSTANCE) No components are listed

SECTION 311/312 (HAZARDOUS SUBSTANCES)

Classification Under Section 311/312 of SARA (40 CFR 370): Acute (Yes) Chronic (No) Fire (No) Reactive (Yes) Pressure (No)

SECTION 313 SUPPLIER NOTIFICATION: No components are listed

RCRA STATUS

Not RCRA hazardous

NTP, OSHA, ACGIH & IARC STATUS

None of the ingredients are listed.

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

HEALTH - 2 FIRE - 0 REACTIVITY -1

- 0 MINIMAL
- 1 SLIGHT HAZARD
- 2 MODERATE HAZARD
- 3 SERIOUS HAZARD
- 4 SEVERE HAZARD

Chemical identity of some ingredients may be withheld as confidential as permitted by 29 CFR 1910.1200 and various State right to know laws.

SECTION 5 PHYSICAL DESCRIPTION

APPEARANCE AND ODOR	Clear colorless to amber liquid; no appreciable odor
BOILING POINT	Not determined
MELTING POINT	Not applicable
FLASH POINT	Not applicable
VAPOR PRESSURE	Not determined
SPECIFIC GRAVITY	1.135 +/- 0.025 g/ml
PRODUCT pH	3.250+/- 0.50 standard pH units
SOLUBILITY IN WATER	Appreciable

SECTION 6 INCOMPATIBILITIES AND STORAGE

Hazardous Polymerization Will Not Occur.
Incompatible with Alkalies and Oxidizing Agents. Reacts with Zinc and Aluminum to form Hydrogen Gas.
Do not get in Eyes, Skin or on Clothing. Avoid breathing vapors.
Hazardous decomposition products: Hydrogen Chloride gas and Hydrogen gas.
Keep containers closed when not in use.
Store containers with labels visible.

Use good Industrial Hygiene. Wash after handling and before eating, drinking or smoking.

SECTION 7 REGULATIONS / OSHA

OSHA Standard 29 CFR 1910.1200	HAZARD COMMUNICATION
OSHA Standard 29 CFR 1910.1000	AIR CONTAMINANTS Table Z-1
OSHA Standard 29 CFR 1910.94	VENTILATION
OSHA Standard 29 CFR 1910.134	RESPIRATORY PROTECTION
OSHA Standard 29 CFR 1910.20	ACCESS TO EMPLOYEE EXPOSURE
OSHA Standard 29 CFR 1910.132	PERSONAL PROTECTIVE EQUIPMENT
OSHA Standard 29 CFR 1910.141	SANITATION
OSHA Standard 29 CFR 1910.151	MEDICAL SERVICES AND FIRST AID
OSHA Standard 29 CFR 1910.133	EYE AND FACE PROTECTION

SECTION 8 EMERGENCY HANDLING OF HAZARDOUS MATERIALS

IF MATERIAL IS ON FIRE OR INVOLVED IN FIRE:

Use water spray, fog, alcohol foam or carbon dioxide CO₂ or dry chemical extinguishers or any agents suitable for surrounding fire.

IF MATERIAL IS NOT ON FIRE OR NOT INVOLVED IN FIRE:

Keep material out of water sources and sewers. Contain and collect.

PERSONAL DANGER SITUATION PROTECTION:

Keep upwind. Avoid breathing dust/vapors/fumes from material. Avoid bodily contact with material. Wear boots, protective gloves and gas-tight goggles. Wear full protective clothing (regular FIRE FIGHTERS' gear is inadequate).

PENNSYLVANIA and MASSACHUSETTS RIGHT-TO-KNOW INFORMATION:

The following comprises the CHEMICAL IDENTIFICATION LIST

	<u>CAS #</u>
Aluminum chloride hydroxide	1327-41-9
1,2-Ethanediamine, polymer with (chloromethyl) oxirane and N-methylmethanamine	42751-79-1
Water	7732-18-5

NEW JERSEY RIGHT-TO-KNOW TOTAL INGREDIENTS LABEL:

	<u>CAS #</u>
Aluminum chloride hydroxide	1327-41-9
1,2-Ethanediamine, polymer with (chloromethyl) oxirane and N-methylmethanamine	42751-79-1
Water	7732-18-5

CALIFORNIA PROPOSITION 65:

This product does not contain toxic chemicals currently on the California list of known carcinogens and reproductive toxins

Pursuant to the California Safe Drinking Water and Toxic Enforcement Act of 1986 (proposition 65), this information is provided. This law requires that "clear and reasonable warning" be provided to any individual, knowingly or intentionally exposed to any substances identified by the state as being cancer or reproductive hazards unless, it can be shown that the exposure poses "no significant risk". Based on available data, the following chemicals listed by Proposition 65 may be present in this product:

NONE

Applied Specialties, Inc.
33555 Pin Oak Parkway
Avon Lake, Ohio 44012

AS-2160

071972160-2

July 16, 2007

Telephone (440) 933-9442

Emergency: (216) 973-6118

MATERIAL SAFETY DATA**SECTION 1 MATERIAL IDENTIFICATION**

PRODUCT NAME OR
SYNONYMS

AS-2160
LIQUID CATIONIC POLYMER



certified with a maximum use
for potable water of 100 mg/L.

SECTION 2 INGREDIENTS AND HAZARDS

COMPONENT	CAS. NUMBER	TWA/CEILING	REFERENCE
2-Propen-1-aminium,N,N-dimethyl- N-2-propenyl-,chloride, homopolymer	26062-79-3	Not Established	

Emergency Overview: Clear To Light Amber Liquid; Mild Odor. Warning! Spills Of This Product Are Very Slippery.

SECTION 3 REGULATORY INFORMATION

OSHA STATUS This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard

TSCA STATUS All components are listed

CERCLA REPORTABLE QUANTITY No components are listed

SARA TITLE III:

SECTION 302 (EXTREMELY HAZARDOUS SUBSTANCE) No components are listed

SECTION 311/312 (HAZARDOUS SUBSTANCES)

Classification Under Section 311/312 of SARA (40 CFR 370): Acute (Yes) Chronic (No) Fire (No) Reactive (No) Pressure (No)

SECTION 313 (TOXIC CHEMICALS) No components are listed

RCRA STATUS Not regulated as supplied

NTP, OSHA, ACGIH & IARC STATUS Not listed.

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)			0 MINIMAL
			1 SLIGHT HAZARD
HEALTH - 1	FIRE - 0	REACTIVITY - 0	2 MODERATE HAZARD
			3 SERIOUS HAZARD
			4 SEVERE HAZARD

Chemical identity of some ingredients may be withheld as confidential as permitted by 29 CFR 1910.1200 and various State right to know laws.

SECTION 5 PHYSICAL DESCRIPTION

APPEARANCE AND ODOR	Clear to light amber liquid; mild odor.
BOILING POINT	Not determined
MELTING POINT	Not applicable
FLASH POINT	Not applicable
VAPOR PRESSURE	Not determined
SPECIFIC GRAVITY	1.02 +/- 0.02 g/ml
PRODUCT pH	6.20 +/- 1.00 standard pH units
SOLUBILITY IN WATER	Complete

SECTION 6 INCOMPATIBILITIES AND STORAGE

Hazardous Polymerization Will Not Occur
Incompatible Materials: Oxidizing Agents, Corrodes Metals
Thermal Decomposition Or Combustion May Produce Carbon Monoxide, Carbon Dioxide, Ammonia, Oxides Of Nitrogen And/Or Hydrogen Chloride

Keep Containers Closed When Not In Use
Store Containers With Labels Visible

SECTION 7 REGULATIONS/OSHA

OSHA Standard 29 CFR 1910.1200	HAZARD COMMUNICATION
OSHA Standard 29 CFR 1910.1000	AIR CONTAMINANTS Table Z-1
OSHA Standard 29 CFR 1910.94	VENTILATION
OSHA Standard 29 CFR 1910.134	RESPIRATORY PROTECTION
OSHA Standard 29 CFR 1910.20	ACCESS TO EMPLOYEE EXPOSURE
OSHA Standard 29 CFR 1910.132	PERSONAL PROTECTIVE EQUIPMENT
OSHA Standard 29 CFR 1910.141	SANITATION
OSHA Standard 29 CFR 1910.151	MEDICAL SERVICES AND FIRST AID
OSHA Standard 29 CFR 1910.133	EYE AND FACE PROTECTION

SECTION 8 EMERGENCY HANDLING OF HAZARDOUS MATERIALS

IF MATERIAL IS ON FIRE OR INVOLVED IN FIRE:

Use alcohol foam or CO₂ or dry chemical extinguishers. Use water spray to keep containers cool. Spills are extremely slippery.

IF MATERIAL IS NOT ON FIRE OR NOT INVOLVED IN FIRE:

Keep material out of water sources and sewers.

PERSONAL DANGER SITUATION PROTECTION:

Keep upwind. Avoid breathing dust/vapors/fumes from material. Avoid bodily contact with material. Wear boots, protective gloves and gas-tight goggles. Wear full protective clothing (regular FIRE FIGHTERS' gear is inadequate).

Applied Specialties, Inc.
33555 Pin Oak Parkway
Avon Lake, Ohio 44012

AS-2160

071972160-2

July 16, 2007

Telephone (440) 933-9442

Emergency: (216) 973-6118

PENNSYLVANIA and MASSACHUSETTS RIGHT-TO-KNOW INFORMATION:

The following comprises the CHEMICAL IDENTIFICATION LIST

	<u>CAS #</u>
2-Propen-1-aminium,N,N-dimethyl- N-2-propenyl-,chloride, homopolymer	26062-79-3
Water	7732-18-5

NEW JERSEY RIGHT-TO-KNOW TOTAL INGREDIENTS LABEL:

	<u>CAS #</u>
2-Propen-1-aminium,N,N-dimethyl- N-2-propenyl-,chloride, homopolymer	26062-79-3
Water	7732-18-5

CALIFORNIA PROPOSITION 65:

This product does not contain toxic chemicals currently on the California list of known carcinogens and reproductive toxins

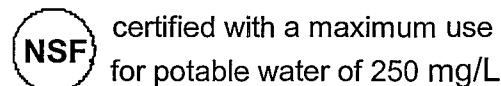
Pursuant to the California Safe Drinking Water and Toxic Enforcement Act of 1986 (proposition 65), this information is provided. This law requires that "clear and reasonable warning" be provided to any individual, knowingly or intentionally exposed to any substances identified by the state as being cancer or reproductive hazards unless, it can be shown that the exposure poses "no significant risk". Based on available data, the following chemicals listed by Proposition 65 may be present in this product:

NONE

MATERIAL SAFETY DATA

SECTION 1 MATERIAL IDENTIFICATION

PRODUCT NAME OR
SYNONYMS AS-3080
COAGULANT AID



SECTION 2 INGREDIENTS AND HAZARDS

COMPONENT	CAS. NUMBER	%	TWA/CEILING	REFERENCE
Aluminum chloride hydroxide sulfate	39290-78-3	33%	2 mg/m ³ (Al)	ACGIH

Emergency Overview: Clear, Colorless To Straw colored Liquid; Odorless. Warning! May Cause Eye And Skin Irritation. Inhalation of mists may cause mucous membrane and respiratory irritation. Harmful if swallowed. Corrosive Material.

SECTION 3 REGULATORY INFORMATION

OSHA STATUS This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard

TSCA STATUS All components are listed

CERCLA REPORTABLE QUANTITY No components listed

SARA TITLE III:

SECTION 302 (EXTREMELY HAZARDOUS SUBSTANCE) No components listed

SECTION 311/312 (HAZARDOUS SUBSTANCES)

Classification Under Section 311/312 of SARA (40 CFR 370): Acute (Yes) Chronic (No) Fire (No) Reactive (No) Pressure (No)

SECTION 313 SUPPLIER NOTIFICATION: No components are listed

RCRA STATUS Not RCRA hazardous

NTP, ACGIH, OSHA & IARC STATUS None of the ingredients are listed.

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)	0 MINIMAL
HEALTH - 2	1 SLIGHT HAZARD
FIRE - 0	2 MODERATE HAZARD
REACTIVITY - 0	3 SERIOUS HAZARD
	4 SEVERE HAZARD

Chemical identity of some ingredients may be withheld as confidential as permitted by 29 CFR 1910.1200 and various State right to know laws.

SECTION 5 PHYSICAL DESCRIPTION

APPEARANCE AND ODOR	Clear, Colorless To Straw colored Liquid; Odorless
BOILING POINT	110 °C
MELTING POINT	Not applicable
FLASH POINT	Not applicable
VAPOR PRESSURE	Not determined
SPECIFIC GRAVITY	1.20 – 1.30 g/ml
PRODUCT pH (15% w/w)	4.0 – 4.5 standard pH units
SOLUBILITY IN WATER	Soluble

SECTION 6 INCOMPATIBILITIES AND STORAGE

Hazardous Polymerization Will Not Occur

Incompatible With Alkalies And Metals (Zinc And Aluminum). Product will slowly corrode iron, brass, copper, aluminum and mild steel.

Hazardous Decomposition Products: When heated to decomposition emits toxic oxides of carbon and sulfur and chlorine compounds including hydrogen chloride. Reacts with metals to form flammable hydrogen gas.

Keep Containers Closed When Not In Use
Store Containers With Labels Visible

Use Good Industrial Hygiene. Wash After Handling And Before Eating, Drinking Or Smoking.

SECTION 7 REGULATIONS/OSHA

OSHA Standard 29 CFR 1910.1200	HAZARD COMMUNICATION
OSHA Standard 29 CFR 1910.1000	AIR CONTAMINANTS Table Z-1
OSHA Standard 29 CFR 1910.94	VENTILATION
OSHA Standard 29 CFR 1910.134	RESPIRATORY PROTECTION
OSHA Standard 29 CFR 1910.20	ACCESS TO EMPLOYEE EXPOSURE
OSHA Standard 29 CFR 1910.132	PERSONAL PROTECTIVE EQUIPMENT
OSHA Standard 29 CFR 1910.141	SANITATION
OSHA Standard 29 CFR 1910.151	MEDICAL SERVICES AND FIRST AID
OSHA Standard 29 CFR 1910.133	EYE AND FACE PROTECTION

SECTION 8 EMERGENCY HANDLING OF HAZARDOUS MATERIALS

IF MATERIAL IS ON FIRE OR INVOLVED IN FIRE:

Use water spray, fog, alcohol foam or carbon dioxide CO₂ or dry chemical extinguishers or any agents suitable for surrounding fire.

IF MATERIAL IS NOT ON FIRE OR NOT INVOLVED IN FIRE:

Keep material out of water sources and sewers. Contain and collect.

PERSONAL DANGER SITUATION PROTECTION:

Keep upwind. Avoid breathing dust/vapors/fumes from material. Avoid bodily contact with material. Wear boots, protective gloves and gas-tight goggles. Wear full protective clothing (regular FIRE FIGHTERS' gear is inadequate).

Applied Specialties, Inc.
33555 Pin-Oak Parkway
Avon Lake, Ohio 44012

AS-3080

071293080-1
May 9, 2007
Telephone (440) 933-9442
Emergency: (216) 973-6118

PENNSYLVANIA and MASSACHUSETTS RIGHT-TO-KNOW INFORMATION:

The following comprises the CHEMICAL IDENTIFICATION LIST

	<u>CAS #</u>
Water	7732-18-5
Aluminum chloride hydroxide sulfate.	39290-78-3

NEW JERSEY RIGHT-TO-KNOW TOTAL INGREDIENTS LABEL:

	<u>CAS #</u>
Water	7732-18-5
Aluminum chloride hydroxide sulfate.	39290-78-3

CALIFORNIA PROPOSITION 65:

This product does not contain toxic chemicals currently on the California list of known carcinogens and reproductive toxins

Pursuant to the California Safe Drinking Water and Toxic Enforcement Act of 1986 (proposition 65), this information is provided. This law requires that "clear and reasonable warning" be provided to any individual, knowingly or intentionally exposed to any substances identified by the state as being cancer or reproductive hazards unless, it can be shown that the exposure poses "no significant risk". Based on available data, the following chemicals listed by Proposition 65 may be present in this product:

NONE



Applied Specialties, Inc.
Product Technical Data Sheet

AS-1200

TYPE: NONIONIC POLYMER

DESCRIPTION

AS-1200 is a high molecular weight, low charge density nonionic polyacryl-amide. **AS-1200** is supplied as a low viscosity, milky-white water-in-oil emulsion. **AS-1200** is an acrylamide homopolymer which generally performs in the pH range 4.5-12.0.

TYPICAL PROPERTIES

Appearance	Viscous White Opaque Emulsion
Specific Gravity	1.00 +/- 0.02
Density @ 80°F	8.35 +/- .1 Lbs/Gal
Viscosity @ 80°F	300 - 600 CPS
Activity	30%
Charge Density	0%
Freeze Point	0°F

HEALTH AND SAFETY INFORMATION

As with any chemical, the operator should be completely familiar with the safe handling of **AS-1200** before it is used. The **Material Safety Data Sheet** should be read and understood before **AS-1200** is used.

ADVANTAGES

The unique polymer properties of **AS-1200** make it an excellent choice for a variety of municipal and industrial applications including:

- ◆ Plate & Frame Filter Presses
- ◆ Vacuum filter operation
- ◆ Belt press operation
- ◆ Sludge Dewatering
- ◆ Demulsification
- ◆ Gravity settling
- ◆ Air flotation
- ◆ Centrifuging

APPLICATION

AS-1200 is a nonionic flocculant which is very effective in many liquid-solid separation processes. The product has been found to be particularly effective for municipal and industrial thickening and clarification operations. **AS-1200** has also shown utility as a flocculent for dewatering processes.

CONTROL AND FEEDING

AS-1200 may be fed neat using a proper sized ASI Emulsion Feed System. **AS-1200** may also be diluted with clean water and fed.

Application dosage may vary, but your Applied Specialties, Inc. Technical Engineer will assist you with an on-site test to determine what is optimum for your system. Your ASI Engineer will also assist you in identifying the best application point and assist in sizing and selecting any necessary feed or control equipment.

A stock solution of up to 1% concentration (as **AS-1200**) may be prepared by adding **AS-1200** to the appropriate quantity of agitated water. In most cases, subsequent dilution to 0.1 or 0.2% solution strength should maximize performance.

A stock solution should not be stored more than 24 hours, as deterioration in performance can occur. NOTE: Water should never be added to a water-in-oil emulsion--as a difficult to dissolve gel will form.

10/07



Applied Specialties, Inc.
Product Technical Data Sheet

AS-2820

TYPE: LIQUID, COAGULANT
NSF CERTIFIED

DESCRIPTION

AS-2820 is a high molecular weight medium charge density cationic polymer/inorganic coagulant blend. It is supplied as a liquid with a low viscosity which performs in the pH range of 5.5 to 9.0.

TYPICAL PROPERTIES

Appearance	Clear, dark red liquid with sharp odor
pH	<1.00 pH Units
Boiling Point	Not Determined
Melting Point	Not Determined
Freeze Point	<12 °F (-11.1 °C)
Specific Gravity	1.35 +/- 0.020 grams/ml
Solubility in Water	Complete

HEALTH & SAFETY INFORMATION

As with any chemical, the operator should be completely familiar with the safe handling of **AS-2820** before it is used. The **Material Safety Data Sheet** should be read and understood before **AS-2820** is used.

NSF INTERNATIONAL STATUS

AS-2820 coagulant is certified to ANSI/NSF Standard 60 by NSF for use in potable water to a maximum concentration of 200 mg/L.

ADVANTAGES

- ◆ Easy to apply, pourable liquid which simplifies dilution, feed and handling operations.
- ◆ Economical to use - effective at low dosage levels. Added savings can be realized in bulk deliveries.
- ◆ Effective over a wide pH range and eliminates the need for post-treatment pH adjustment.
- ◆ Eliminates or reduces lime demand when used as a primary coagulant.
- ◆ Forms a low volume, compact, high solids sludge for easy disposal.
- ◆ Effective in clarification of low turbidity, high color waters.

APPLICATION

AS-2820 is designed for use in both industrial and municipal applications to improve the efficiency of solids/water separation process. **AS-2820** is an effective primary coagulant to reduce carry over and increase sludge density.

Other uses of **AS-2820** include conditioning of waste water sludges prior to vacuum filtration or centrifugation, clarification of latex waste water, and demulsification of dispersed and emulsified oils and greases.

07/07



Applied Specialties, Inc.
Product Technical Data Sheet

AS-3035

TYPE: LIQUID, COAGULANT
NSF CERTIFIED

DESCRIPTION

AS-3035 coagulant is a blend of Aluminum Chloride Hydroxide and a high molecular weight cationic polymer. **AS-3035** works effectively as a primary coagulant in raw water clarification as a total or partial replacement for inorganic salts.

TYPICAL PROPERTIES

Appearance	Clear Colorless to Amber Liquid
	No Appreciable Odor
Specific Gravity	1.135 +/- 0.025 g/ml
Viscosity @ CP, 25°C	4.0 +/- 0.5 CPS
pH	2.75 - 3.75
Solubility in water	Appreciable
Chemical Reactivity	Non-reactive
Shelf Life 50°-100°F (10°-40°C)	12-24 Months
Freezing Point	Less than 20°F
Flash Point Closed Cup	>200°F (>93°C)

HEALTH AND SAFETY INFORMATION

As with any chemical, the operator should be completely familiar with the safe handling of **AS-3035** before it is used. The **Material Safety Data Sheet** should be read and understood before **AS-3035** is used.

NSF INTERNATIONAL STATUS

AS-3035 coagulant is certified to ANSI/NSF Standard 60 by NSF for use in potable water to a maximum concentration of 187 mg/L.

ADVANTAGES

- ◆ Easy to apply, pourable liquid which simplifies dilution, feed and handling operations.
- ◆ Economical to use - effective at low dosage levels. Added savings can be realized in bulk deliveries.
- ◆ Effective over a wide pH range and eliminates the need for post-treatment pH adjustment.
- ◆ Effective in chlorinated waters.
- ◆ Eliminates or reduces lime demand when used as a primary coagulant.
- ◆ Forms a low volume, compact, high solids sludge for easy disposal.
- ◆ Less blow-down of sludge is required resulting in more usable water and increased filter throughput.
- ◆ Effective in clarification of low turbidity, high color waters.

APPLICATION

AS-3035 coagulant contains a highly effective cationic polyelectrolyte which permits it to be used as a primary coagulant aid in a wide range of applications.

AS-3035 coagulant is recommended for these liquid-solids separation processes:

- ◆ Gravity settling - improves floc formation yielding larger floc size and faster settling rates.
- ◆ Water clarification - for improved effluent quality by reducing of suspended solids and turbidity.
- ◆ Air flotation - results in clearer underflows and greater throughput.
- ◆ Filtration - improves filtered water quality and plant throughputs.

01-07



Applied Specialties, Inc.
Product Technical Data Sheet

AS-2160

TYPE: CATIONIC COAGULANT
NSF CERTIFIED

DESCRIPTION

AS-2160 is a high charge medium molecular weight, poly DADMAC which is supplied as a low viscosity liquid. **AS-2160** performs over the pH range of 4.5 to 12.0

In Gravity settling **AS-2160** improves floc formation yielding larger floc size, faster settling rates and cleaner effluents.

AS-2160 is effective in dewatering a wide range of industrial and municipal sludges. The emulsion breaking properties make it an excellent choice in many industrial oil separation treatment applications.

TYPICAL PROPERTIES

Appearance	Clear to Light Amber Liquid; Mild Odor
Density	8.51 Lbs./Gallon
Specific Gravity	1.02 +/- 0.02 g/ml
Viscosity (Spindle #2)	180 to 2600 CPS
pH	6.00 +/- 1.00
Freeze Point	20°F (-6.6°C)

HEALTH AND SAFETY INFORMATION

As with any chemical, the operator should be completely familiar with the safe handling of **AS-2160** before it is used. The **Material Safety Data Sheet** should be read and understood before **AS-2160** is used.

AS-2160 was not toxic by ingestion or by skin contact in animal tests. This product was neither irritating nor sensitizing to human subjects in repeat-insult patch testing.

NSF INTERNATIONAL STATUS

AS-2160 coagulant is certified to ANSI/NSF Standard 60 by NSF for use in potable water to a maximum concentration of 100 mg/L

ADVANTAGES

- Easy to apply, pourable liquid which simplifies dilution, feed, and handling operations.
- Economical to use and effective at low dosage levels. Added savings can be realized in bulk deliveries.
- Effective over a wide pH range and eliminates the need for post-treatment pH adjustments.
- Effective in chlorinated waters.
- Eliminates alum or ferric muds when used as a primary coagulant.
- Forms a low volume, compact, high solids sludge for easy disposal.
- Less blowdown of sludge is required resulting in more usable water and increased effective throughput.
- Effective in clarification of low turbidity, high color waters.

APPLICATION

AS-2160 is effective in many liquid/solids and oil/water separation processes.

The application of **AS-2160** has eliminated the requirements of other coagulants in industrial and municipal clarification. In many cases reducing sludge volume and disposal costs.

AS-2160 has shown to be very effective in water clarification where improved effluent quality is needed by reducing suspended solids and turbidity.

In Air flotation **AS-2160** results in clearer underflows and greater throughput. When used in Filtration **AS-2160** improves filtered water quality and plant throughputs.

07/07



Applied Specialties, Inc.
Product Technical Data Sheet

AS-3080

TYPE: LIQUID, COAGULANT
NSF CERTIFIED

DESCRIPTION

AS-3080 coagulant is a 70% basicity aluminum hydroxichloride. **AS-3080** works effectively as a primary coagulant in raw water clarification as a total or partial replacement for inorganic salts.

TYPICAL PROPERTIES

Appearance	Colorless to Clear Amber Liquid; Slight Odor
Specific Gravity @20°C	1.22 +/- 0.02 g/ml
Viscosity @ CP, 25°C	4.0 +/- 0.5 CPS
pH (15% Solution)	4.00 - 4.50
Solubility	Appreciable
Basicity (% OH/Al equiv.)	65.0 – 75.0
Aluminum (%)	5.55 +/- 0.26
Al ₂ O ₃ (%)	10.5 +/- 0.5
Freezing Point (°C)	-12.0 +/- 1.0
Shelf Life	< 180 Days

ENVIRONMENTAL PROPERTIES

- ◆ TOC <2.0 ppm

HEALTH AND SAFETY INFORMATION

As with any chemical, the operator should be completely familiar with the safe handling of **AS-3080** before it is used. The **Material Safety Data Sheet** should be read and understood before **AS-3080** is used.

NSF INTERNATIONAL STATUS

AS-3080 coagulant is certified to ANSI/NSF Standard 60 by NSF for use in potable water to a maximum concentration of 250 mg/L.

ADVANTAGES

- ◆ Easy to apply, pourable liquid which simplifies dilution, feed and handling operations.
- ◆ Economical to use - effective at low dosage levels. Added savings can be realized in bulk deliveries.
- ◆ Effective over a wide pH range and eliminates the need for post-treatment pH adjustment.
- ◆ Effective in chlorinated waters.
- ◆ Eliminates or reduces lime demand when used as a primary coagulant.
- ◆ Forms a low volume, compact, high solids sludge for easy disposal.
- ◆ Less blow-down of sludge is required resulting in more usable water and increased filter throughput.
- ◆ Effective in clarification of low turbidity, high color waters.

APPLICATION

AS-3080 coagulant contains a highly effective cationic polyelectrolyte which permits it to be used as a primary coagulant aid in a wide range of applications.

AS-3080 coagulant is recommended for these liquid-solids separation processes:

- ◆ Gravity settling - improves floc formation yielding larger floc size and faster settling rates.
- ◆ Water clarification - for improved effluent quality by reducing of suspended solids and turbidity.
- ◆ Air flotation - results in clearer underflows and greater throughput.
- ◆ Filtration - improves filtered water quality and plant throughputs.

05/07



NSF International

OFFICIAL LISTING

NSF International Certifies that the products appearing on this Listing conform to the requirements of
NSF/ANSI Standard 60 - Drinking Water Treatment Chemicals - Health Effects

This is the Official Listing recorded on October 4, 2007.

APPLIED SPECIALTIES, INC.

33555 PIN OAK PARKWAY

AVON LAKE, OH 44012

800-933-9915

440-933-9442

Facility: AVON LAKE, OH

Chemical/

Trade Designation

Function

Max Use

Aluminum Chlorohydrate [AL]

AS-3020

Coagulation & Flocculation

250 mg/L

AS-3030

Coagulation & Flocculation

250 mg/L

AS-3080

Coagulation & Flocculation

250 mg/L

Aluminum Sulfate [AL]

AS-3050

Coagulation & Flocculation

150 mg/L

Blended Corrosion Inhibitor

AS-7732

Corrosion & Scale Control

27 mg/L

Sequestering

AS-7733

Corrosion & Scale Control

27 mg/L

Sequestering

Blended Phosphates

AS-7635

Corrosion & Scale Control

27 mg/L

AS-7736

Corrosion & Scale Control

27 mg/L

Ferric Chloride

AS-2800

Coagulation & Flocculation

250 mg/L

Ferric Sulfate

AS-2900

Coagulation & Flocculation

600 mg/L

Ferrous Chloride

AS-2600

Coagulation & Flocculation

176 mg/L

Ferrous Sulfate

AS-2650

Coagulation & Flocculation

400 mg/L

Phosphoric Acid

AS-7800

Corrosion & Scale Control

27 mg/L

pH Adjustment

Poly (Diallyldimethylammonium Chloride) (pDADMAC) [PD]

AS-212

Coagulation & Flocculation

25 mg/L

Filtration Aid

AS-2120

Coagulation & Flocculation

50 mg/L

AS-2121

Coagulation & Flocculation

50 mg/L

AS-2140

Coagulation & Flocculation

100 mg/L

AS-2150

Coagulation & Flocculation

100 mg/L

Filtration Aid

Note: Additions shall not be made to this document without prior evaluation and acceptance by NSF International.

1 of 5

789 N. Dixboro Road, Ann Arbor, Michigan 48105-9723 USA

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www.nsf.org

01680



NSF International

AS-2823	Coagulation & Flocculation	160	mg/L
AS-2824	Coagulation & Flocculation	200	mg/L
AS-2920	Coagulation & Flocculation	400	mg/L
AS-2921	Coagulation & Flocculation	400	mg/L
AS-2922	Coagulation & Flocculation	500	mg/L
AS-2923	Coagulation & Flocculation	400	mg/L
AS-2924	Coagulation & Flocculation	320	mg/L
AS-3003	Coagulation & Flocculation	263	mg/L
AS-3006	Coagulation & Flocculation	250	mg/L
AS-3008	Coagulation & Flocculation	93	mg/L
AS-3009	Coagulation & Flocculation	167	mg/L
AS-3022	Coagulation & Flocculation	263	mg/L
AS-3023	Coagulation & Flocculation	250	mg/L
AS-3024	Coagulation & Flocculation	167	mg/L
AS-3025	Coagulation & Flocculation	263	mg/L
AS-3026	Coagulation & Flocculation	200	mg/L
AS-3027	Coagulation & Flocculation	133	mg/L
AS-3031	Coagulation & Flocculation	187	mg/L
AS-3032	Coagulation & Flocculation	195	mg/L
AS-3033	Coagulation & Flocculation	187	mg/L
AS-3034	Coagulation & Flocculation	195	mg/L
AS-3035	Coagulation & Flocculation	187	mg/L
AS-3036	Coagulation & Flocculation	196	mg/L
	Filtration Aid		
AS-3037	Coagulation & Flocculation	188	mg/L
	Filtration Aid		
AS-3038	Coagulation & Flocculation	196	mg/L
	Filtration Aid		
AS-3040	Coagulation & Flocculation	158	mg/L
AS-3041	Coagulation & Flocculation	168	mg/L
	Filtration Aid		
AS-3042	Coagulation & Flocculation	167	mg/L
AS-3044	Coagulation & Flocculation	167	mg/L
AS-3051	Coagulation & Flocculation	130	mg/L
AS-3061	Coagulation & Flocculation	157	mg/L
	Filtration Aid		
AS-3062	Coagulation & Flocculation	161	mg/L
	Filtration Aid		
AS-3063	Coagulation & Flocculation	166	mg/L
	Filtration Aid		
AS-3070	Coagulation & Flocculation	161	mg/L
AS-3072	Coagulation & Flocculation	176	mg/L
AS-3074	Coagulation & Flocculation	189	mg/L
AS-3075	Coagulation & Flocculation	158	mg/L
AS-3077	Coagulation & Flocculation	167	mg/L
AS-3079	Coagulation & Flocculation	133	mg/L
	Filtration Aid		
AS-3081	Coagulation & Flocculation	256	mg/L
AS-3082	Coagulation & Flocculation	263	mg/L
AS-3084	Coagulation & Flocculation	256	mg/L
AS-3085	Coagulation & Flocculation	263	mg/L

Note: Additions shall not be made to this document without prior evaluation and acceptance by NSF International.

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NSF International

- [AL] Based on an evaluation of health effects data, the level of aluminum in the finished drinking water shall not exceed 2 mg/L.
- [PC] Polyacrylamide Products Certified by NSF International comply with 40 CFR 141.111 requirements for percent monomer and dose.
- [PD] Certification is based on a maximum carryover of 50 ug/L DADMAC polymer.
- [PO] The finished drinking water shall be monitored to ensure that levels of manganese do not exceed 0.05 mg/L.
- [PY] Polyamines Certified by NSF International comply with 40 CFR 141.111 requirements for percent monomer and dose.
- [ZN] Based on an evaluation of health effects data, the level of zinc in the finished drinking water shall not exceed 2.0 mg/L.

Note: Additions shall not be made to this document without prior evaluation and acceptance by NSF International.

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