

COUNTY OF FRESNO

ADDENDUM NUMBER: FOUR (4)

RFP NUMBER: 910-5268

HVAC CHEMICAL TREATMENT SERVICES

July 23, 2014

PURCHASING USE

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IMPORTANT: SUBMIT PROPOSAL IN SEALED PACKAGE WITH PROPOSAL NUMBER, CLOSING DATE AND BUYER'S NAME MARKED CLEARLY ON THE OUTSIDE TO:

COUNTY OF FRESNO, Purchasing
4525 EAST HAMILTON AVENUE, 2nd Floor
FRESNO, CA 93702-4599

CLOSING DATE OF PROPOSAL WILL BE AT 2:00 P.M., ON AUGUST 7, 2014.

PROPOSALS WILL BE CONSIDERED LATE WHEN THE OFFICIAL PURCHASING TIME CLOCK READS 2:00 P.M.

All proposal information will be available for review after contract award.

Clarification of specifications is to be directed to: **Caleb J. Brooks, phone (559) 600-7124,**
e-mail CountyPurchasing@co.fresno.ca.us, **FAX (559) 600-7126.**

NOTE THE FOLLOWING AND ATTACHED ADDITIONS, DELETIONS AND/OR CHANGES TO THE REQUIREMENTS OF REQUEST FOR PROPOSAL NUMBER: 910-5268 AND INCLUDE THEM IN YOUR RESPONSE. PLEASE SIGN AND RETURN THIS ADDENDUM WITH YOUR PROPOSAL.

- **The successful bidder is required to possess a C-55 or C-36 license or should demonstrate in their proposal that they will obtain either license in a reasonable amount of time following contract award. Bidders should provide the timeline in which they will be licensed to perform installation(s) of equipment that may be required during the term of the agreement.**
- **A potential bidder has stated that the involvement of the County's Consultant (Mr. Don Osborne of World Laboratories, Inc.) in assisting in the development of the RFP constitutes a conflict of interest, and that the subject RFP should be cancelled. Please see the County's response on the following page.**

ACKNOWLEDGMENT OF ADDENDUM NUMBER FOUR (4) TO RFP 910-5268

COMPANY NAME: _____
(PRINT)

SIGNATURE: _____

NAME & TITLE: _____
(PRINT)

County's Response to Conflict of Interest Claim: Based on the information provided, there is no apparent evidence of any impropriety on the part of the County with respect to using Mr. Osborne as a consultant in preparing the RFP, and certainly no evidence supporting the claim that there exists some type of conflict of interest. The issuance of the RFP has been done in conformity with County purchasing and Contract procedures.

The following questions and requests for clarifications or interpretations to the RFP were received prior to questions period cut-off. Please find the County's response after each question or request.

Q1. What is Don Osborne's connection with each of the other participants in RFP #910-5268?

A1. ***Titan** — The Titan employees who are currently providing service to the County were former employees of Consolidated Water Treatment before Consolidated got out of the service business. Titan has purchased chemicals from World Laboratories.*

***Inland** — No connection.*

***Pacific** — Don hired Mike Murphy as a consultant to observe the opening of a chiller at the Crocker Bldg to report any scaling issues.*

***San Joaquin** — San Joaquin has purchased chemicals from World Laboratories.*

Q2. Which laboratory is going to do the verification? We must contact these laboratories to verify their capabilities prior to this bid being awarded!

A2. *This has not yet been determined. If the County determines that verification is needed, an objective, independent laboratory will be selected.*

Q3. Is the County and/or the vendor required to be fingerprinted when handling Morpholine?

A3. *There were new regulations that apparently were written in 2011, but not enforced with any clarity until most recently. These regulations as set forth by the Department of Justice and enforced by the Drug Enforcement Agency break down to: a) a buyer of morpholine must have a DOJ permit; b) the buyer of the morpholine must ship the product to the end use application; c) the buyer must invoice for the morpholine.*

Q4. Does the County and/or the vendor need to register with the DEA when handling morpholine?

A4. *At this point, the two options that absolutely do exist within the regulations are: a) Fresno County procures the SR-53 directly from any company that is properly registered and permitted with the DOJ; b) Fresno County explores alternative raw materials to replace morpholine (which at this time is the most proven effective material). In addition to these options, our current supplier has submitted the following option to DOJ for review (we expect approval of this option soon): c) Given the breakdown provided in 3); a), b) & c) we believe an acceptable process would be any properly registered & permitted company could buy the morpholine & ship it directly to the end-user application while invoicing any end-user service provider who return would invoice the end-user. This process would allow for the tracking of the morpholine that DOJ is trying to establish while still allowing the end-user to use the most proven technology.*

Q5. Since the County is not operating their absorption units at UMC and certainly has no prospects to do so, why is Morpholine necessary?

A5. The County still has other "short-run" steam applications. Ignoring the multi-stage runs that exist would only lead to the problems that currently exist throughout the Main Jail Steam & Condensate Systems (elevated corrosion & high iron concentrations leading to deposits).

Q6. How is formula verification of this product going to be tested to determine the concentration to 1.412 grams DEEA, same for Cyclohexylamine and 1.747 grams for Morpholine?

A6. Verification will be accomplished through laboratory analytical practices and/or blending site inspections (to include batch sheet verification).

Q7. We believe that Bellacide 301 is much more effective than Bellacide 355 when using an oxidizing Biocide such as Bromicide. What is your consultant's view?

A7. In a clean system utilizing a strategy of a low level continuous feed of Bromine with scheduled, ongoing non-oxidizing biocide shock treatments, Bellacide 301 may be a good choice. The initial strategy we have requested is a continuous feed of Bromine followed by shock treatments of a non-oxidizing biocide as required by test results and or visual evidence of biological blooms. This strategy is much more cost efficient when proven effective. Under this strategy, Bellacide 355 is much more effective than Bellacide 301. As we have stated multiple times to date, the results will verify and validate the success of the program. Active monitoring will assure adjustments can be made in a timely manner such that issues are always corrected prior to becoming problems.

Q8. It is our understanding that Myles Chemicals, not World Laboratories Ltd. has the blend down (dilution) contract for Bellacide 355? Is this correct?

A8. Yes, as does Miles Chemical have the Toll Blending Agreement for the Bellacide 301.

Q9. We believe that Bellacide 355 is available from other sources (other than World Laboratories) to all water treatment companies? Is this correct?

A9. Yes.

Q10. Will the Contractor need State of California licenses in order to handle or recommend the use of this pesticide [Bromicide]?

A10. The first point that should be made is that all Biocides are viewed exactly the same. They are either registered for the use in the application or they are not registered biocides, doesn't matter if it is Bellacide 301, Bellacide 355, or K-Brom T. This is a biocide application, not a pesticide application. The State has gone with the argument that biocide applications are industrial and not agricultural (with the potential of human consumption) and therefore, are not subject to a pesticide license. In other cases, they have strongly recommended and/or demanded a pesticide license. If the local inspector views the products as pesticides and not biocides then most likely the end-user service provider will need to have this. This seems to be completely dependent on the State inspector assigned to the application.

Q11. Will the Contractor be required to have a Federal EPA or State Agricultural license to manufacture or dilute down pesticide concentrates?

A11. No, the manufacturer or toll blender does not need this. It is an 'applicator's license' so the end-user service provider should have this license if the County requests it.

Q12. Does the County of Fresno have the license to supply and use their own Biocides?

A12. No. The County expects the successful bidder to safely and appropriately apply these in accordance with industry standards through automation and/or other means.

Q13. Are County employees properly licensed and trained to handle pesticides?

A13. They are not required to have a pesticide license. This will be the responsibility of the successful bidder if deemed necessary by the County. They have been trained in safe chemical handling, however the County is requesting renewal of all appropriate training.

Q14. This [CWT-NWR] is a hazardous alkaline chemical containing a heavy metal. What is your consultant's perspective on the issue that this heavy metal is being increasing scrutinized and restricted by many Government Agencies?

A14. The alkalinity of CWT-NWR was designed to help elevate silica solubility. To avoid the alkalinity issue, the County can simply request a reduction in the potassium hydroxide concentration in the formula and a new SDS can easily be distributed. The molybdenum concentration found in the recycled irrigation water will be well below that used commonly as a plant nutrient/supplement once it reaches the recycled water system. Therefore, it is not of concern. Heavy metals have been scrutinized for many years now in our industry beginning in the mid-1980's with chromium 6. Molybdenum has been looked at very closely by the State of California and their opinion is that is not an issue at this time at the levels the industry commonly recommend and use. If state or federal mandates change, we will regroup and make the appropriate adjustments to the programs and/or products as these regulations dictate.

Q15. Why propose such a hazardous product [BWT-27] for County employees to handle when it is clearly not necessary? A diluted version <25% would be completely acceptable and much safer to handle.

A15. It is the County's understanding that <25% is no safer and that severe burns can occur at 10% and 12% just as they can at 25%.

Q16. Why propose such a corrosive product [BWT-112] when it is not necessary; not only corrosive to handle, corrosive to feed water tanks, feed water lines, and pumps and an inhalation problem as well?

A16. In reviewing the SDS provided, we identified a cultural difference between those preparing the SDS and the actual information as pertains to this product (BWT-112). The health ratings as well as the PPE requirements were written around the actual powdered raw material. This was done with maximum safety in mind but the result was incorrect. The liquid solution resulting from the formulation provided has different characteristics than does the powdered raw material. The appropriate corrections have been made (see the corrected SDS attached) according to the true characteristics of the liquid sulfite formulation recommended. The purpose of the formula as written is to maximize product concentration while maintaining the convenience and safety of using a liquid. This

product and the raw materials in it are used at the concentrations recommended throughout the State without issue.

Q17. What QC test will be performed by the County of Fresno to determine the percent of available sulfite?

A17. Analytical laboratory, specific gravity and/or blending site inspections (to include batch sheet verification).

Q18. The ingredient [BWT-178] used to contribute P0₄ is expensive; why did your water treatment Consultants not use a less expensive P0₄ contributor?

A18. The County of Fresno is looking for a fair price on quality, high performing chemistries that will not lead to immediate issues under excursion conditions. Given the current environment, the County of Fresno recognizes that control upsets will happen and this requires extended response times. The County is not looking for cheap products that will create issues if "out of limit" for short periods. Again, the response time could be days not hours and the County of Fresno must account for this by using high quality, stable products.

Q19. After blending, it will be very difficult to impossible to determine, without extensive and expensive testing, as to the actual P0₄ contributor used. What tests and what level of ingredients tested for will be used to verify this formula down to 14.43 grams active TKPP is present?

A19. Again, analytical testing and/or site inspections (to include batch sheet verification) will determine this.

Q20. What is the QC variance from the specification to be allowed?

A20. The variances allowed will match the variances accepted for the raw materials used.

Q21. How was this determined?

A21. Batch sheet verification and specific gravity will suffice in most cases.

Q22. What level of Azole is required in each chilled and hot water system?

A22. In truly "closed" systems from both the waterside and exposure to atmosphere, three (3) to ten (10) ppm would be considered "Industry Standard." However, in Systems that atmospheric exposure does exist (i.e. Thermal Energy Storage, TES), it is preferred to hold Azole levels above 10 ppm and as high as thirty (30) ppm.

Q23. What test is going to be used? We recommend the HACH Azole Test Kit. Is this test currently available to County operators?

A23. Since this is in closed loop applications, the County tests only for the most accurate and field friendly component of the closed loop inhibitors. Azole will be tested by the successful bidder. In fact, the County has requested that all 'closed loops' be tested once per month by the successful bidder. Therefore, the need for the County to test closed loops at all is most likely not going to be required.

Q24. Is the 63% active polyacrylic Acid Belclene 810?

A24. No. Belclene 810 is a proprietary multi-functional polymer blend.

Q25. Belclene 810 product data sheet states it works best at neutral pH. Should the control pH of the cooling tower water? If so, how?

A25. Belclene 810 is not in CWT-Si. All commonly used water treatment polymers tend to work best under pH neutral conditions. That said, even when used alone, Belclene 810 can hold up to a 3.0 LSI which is above most formulated products designed for alkaline water programs. pH Control is not necessary.

Q26. Why not consider a more broad spectrum antiscalant?

A26. The combination of PBTC, HEDPA, polyacrylic acid and a multifunctional polymer with silica dispersion properties covers the entire spectrum required based on the make-up waters throughout the County of Fresno portfolio. There is no need for any further polymer addition.

Q27. Since the JJC facilities have full occupancy, which was apparently not the case in 2008, has this been taken into consideration through review of the discharge stream analysis and contaminant levels to determine if this dilution from tower blowdown is still necessary?

A27. Yes. The County of Fresno is requesting that this balance be monitored to determine most cost effective water balances ongoing. Please remember that any water recovered from a process already in place (water that has already been "used") is much more beneficial than watering the grounds with canal water or well water.

Q28. If this is not necessary, why not operate at higher cycles of concentration for water conservation?

A28. Again, conservation is always the priority goal. That said, balancing water requirements and solids loading such that the supplemental use of well water and/or canal water for irrigation is not required is the ultimate sustainable and conservative solution.

Q29. How can you guarantee 0.001 percent with your formulas required by the County specification when raw materials vary so much? How can a blender guarantee 0.001 percent active ingredients in their formulas? What test procedures can assure that you get to three (3) decimals required in your specified formulas?

A29. Batch sheet validation and specific gravity will allow for raw material verification.

Q30. BWA Beleclene 810 (polyacrylic acid) states on their specification sheet the solids content between 45 and 50 percent by weight ~ 10 percent variance yet the blender using this product needs to be within 0.001 percent by weight, how is this possible?

A30. The percent by weights were taken off existing batch sheets and averaged. All variances developed in this manner going forward will be acknowledged and accepted within the raw material certificate of analysis variances.

Q31. Mr. Osborne made a comment that San Joaquin Chemicals, Inc. was presently responsible for the closed loop treatment however World Laboratories, Ltd. closed loop products were on hand at numerous County locations. Will you explain this?

A31. This request does not apply to the specifications, requirements, and conditions of the RFP.

Q32. The chemicals specified under RFP #910-5268 use calculations are way out of kilter, how were these calculations developed?

A32. There were no calculations used to develop chemical use requirements. All chemical use estimates were taken from the past three years of actual consumption.

Q33. Were current conditions (scaling and fouling at numerous County facilities) taken into consideration when estimating the amount of chemicals needed?

A33. Yes.

Q34. We did not receive PDS's for two (2) products; BWP-27 and CWT-BTZ-40; could we please get these?

A34. These are both common raw materials and are requested in the most common raw material concentrations. The PDSs can be obtained directly from the raw material suppliers.

Q35. Facility condenser water scale/corrosion inhibitor - What is the necessity for DI water? Softened water should be sufficient.

A35. DI water makes for a better blending material with less chance of product blending and stability issues.

Q36. What is the silica specific dispersant? Mr. Don Osborne stated his formulas could handle Silica north of 240 ppm, why is he only carrying a maximum of ≈ 120 ppm? As water quality changes throughout Fresno, it is well known (even by SJC) that Silica concentrations also fluctuate. There are times that in coming Silica reaches 70 to 80 ppm. Not only does the recommended Formula account for these well documented fluctuations, it also allows for future conservation opportunities which again were well covered during the Conference and Walk Through. Why an alkaline formula for this JJC application?

A36. The alkaline formula provides further added system protection.

Q37. Why Belclene 810 when other antiscalant polymers are more broad spectrum and better for these applications?

A37. Belclene 810 was chosen because it contains no phosphorous. It is understood by the County that are not many more high performance broad spectrum antiscalants.

Q38. The Belclene 810 PDS indicates it works best at neutral pH ranges. Is Mr. Osborne proposing tower water pH ≈ 7.0 at JJC?

A38. No, Mr. Osborne did not propose that.

Q39. In our experience, Bellacide 355 attacks PVC, and could be a problem where chemical feed systems have PVC as their transport piping. Wouldn't Bellacide 301 or KATHON work better with the specified oxidizing biocide?

A39. No. This would only occur in the products most concentrated form. The Bellacide 355 is currently shock dosed into the system manually and only as required. It does not come in contact with any PVC until diluted into the system water.

Q40. We don't believe SSMA is necessary for LP boilers and is a waste of money. We also believe TKPP is an expensive source for PO4 contribution. SSMA & Acrylate concentrations are high assuming the product is being monitored at 30-60 ppm. PO4, is this the case? What is the consultant's perspective on these issues?

A40. This request is immaterial to submitting a proposal in response to the RFP.

Q41. Why isn't DI used as a steam condensate line corrosion inhibitor?

A41. It should be.

Q42. Can amines be fed directly into the steam line? If so, why wasn't this recommended?

A42. Yes.

Q43. Except for steam line treatment, we don't believe that DI water is necessary for closed chilled and hot water loops. Isn't soft water adequate?

A43. Please refer to the Scope of Work and specification.

Q44. We want your Consultants written resume' of his qualifications as an independent Consultant to Fresno County, include contact people and phone numbers of at least ten (10) projects he has consulted for in the last five (5) years.

A44. This request does not apply to the specifications, requirements, and conditions of the RFP.

Q45. What merits and qualifications are required to be a water treatment Consultant for the County?

A45. This request does not apply to the specifications, requirements, and conditions of the RFP.

Q46. We want access to all communications between Consolidated Water Technologies, Titan Water Technology, Inc., World Laboratories, Ltd., and the County of Fresno relating to the water treatment program at the County of Fresno for the past five (5) years.

A46. This request does not apply to the specifications, requirements, and conditions of the RFP.

Q47. We want documents showing all cost for repairs, replacement, and cleaning of all HVAC systems over the past five (5) years.

A47. This request does not apply to the specifications, requirements, and conditions of the RFP.

Q48. We again ask for the last ten (10) years of energy bills for the County jail and other facilities using soft water make-up and the purported [sic] silica extender.

A48. This request does not apply to the specifications, requirements, and conditions of the RFP.

Q49. Are the County employees fitted, taken their physicals & certified to wear the proper respirator masks to handle this biocide?

A49. This request does not apply to the specifications, requirements, and conditions of the RFP.

Q50. Has Titan Water Technology, Inc., or Mr. Osborne trained the County operators to the new non-soft water make-up program? Please produce the training records which are required under the 2008 RFP #885-4519.

A50. This request does not apply to the specifications, requirements, and conditions of the RFP.

Q51. We require copies of all control charts for all locations, test instructions, training records for the past five (5) years.

A51. This request does not apply to the specifications, requirements, and conditions of the RFP.

Q52. Did Mr. Osborne or any of his associates get involved with the Fresno Bee article in July 2013 where the County indicated the AC problem was that the AC unit broke down?

A52. This request does not apply to the specifications, requirements, and conditions of the RFP.

Q53. We want all deposit analysis submitted to the County of Fresno by Mr. Osborne and/or any of his associated companies supplying water treatment products and services to Fresno County.

A53. This request does not apply to the specifications, requirements, and conditions of the RFP.

Q54. Non active ingredients, dyes and heavy metal tracers, are not used to monitor our products; we are the only bidder in this process that does not use non active tracers. If the county purchased these formulas they should get their money back ASAP, how much did the County pay for these formulas?

A54. This request does not apply to the specifications, requirements, and conditions of the RFP.

Q55. What did the County pay to the Consultant? What has the County paid to Don Osborne over the past five (5) years for consulting services?

A55. This request does not apply to the specifications, requirements, and conditions of the RFP.

Q56. Maybe this was asked prior but we need an accounting of all costs for HVAC equipment repairs, replacement and cleaning including the most recent tower cleanings over the past five (5) years.

A56. This request does not apply to the specifications, requirements, and conditions of the RFP.

Q57. We need all corrosion and scale analysis reports and records for all county facilities for the past five (5) years, this data was required by the 2008 specification and Titan Water Technology, Inc.

A57. This request does not apply to the specifications, requirements, and conditions of the RFP.

Q58. We noted the county has our product on hand at UMC and yet Mr. Osborne had the county purchase his products rather than use up the same generic product that was on hand, if he is the County's Consultant, he could have used the product on hand, he should know this shouldn't he?

A58. This request does not apply to the specifications, requirements, and conditions of the RFP.

Q59. There is no indication that the condenser water treatment nor the non-oxidizing Biocide specified have been used at the Fresno County Facilities as stated by Mr. Osborne, I'm sure there is a complete QC record of the formulas supplied to the County by Mr. Osborne, especially if Myles Chemicals is blending these products as they are a quality company. We want all purchase orders for water treatment products purchased from Mr. Don Osborne, World Laboratories Ltd., Consolidated Water Technologies, and Titan Water Technology, Inc., issued for products sold to the county the past year. The Titan Water Technology, Inc., service representative stated within 15 minutes of Mr. Osborne stating the products have been successfully used, that Bellacide 355 has never been used at the County, get us the procurement records to verify Mr. Osborne's statement. In addition, we want access to the QC records to verify accuracy of the formulas specified by Mr. Osborne.

A59. This request does not apply to the specifications, requirements, and conditions of the RFP.

Q60. Are the Titan Water Technology, Inc., representatives servicing your facilities in the proper State Workers Compensation category? Are they licensed to handle biocides? Is Mr. Osborne's company licensed to handle and recommend the use of pesticides?

A60. This request does not apply to the specifications, requirements, and conditions of the RFP.

Q61. At the JJC apparently PO₄ and SO₃ testing is performed on the feed water not the boilers, who made this recommendation? You're Consultant? What is your Consultants position on this?

A61. This request does not apply to the specifications, requirements, and conditions of the RFP.

Q62. Mr. Osborne must have established this procedure, did he? What were his recommendations? Has Mr. Osborne been monitoring PO₄ and SO₃ this way over the past five (5) years?

A62. This request does not apply to the specifications, requirements, and conditions of the RFP.

Q63. Has Mr. Osborne instructed the operator as to how to perform the PO₄ test?

A63. This request does not apply to the specifications, requirements, and conditions of the RFP.

Q64. Is he aware that you want to know the free available PO₄ in the boiler? Apparently your current water treatment service representative does not, recommending not filtering samples when testing PO₄ levels.

A64. This request does not apply to the specifications, requirements, and conditions of the RFP.

Q65. Steam boiler oxygen scavenger; DI water not necessary, problem with metabisulfite is low pH of the formula being fed to the boilers feed water tank (Jail) or DA tank (UMC & JJC) could be very corrosive to these tanks, boiler feed water lines, and boiler feed water pumps. Has your Consultant taken this into account? What is his interpretation?

A65. This request does not apply to the specifications, requirements, and conditions of the RFP.

Q66. Did your Consultant inform you that "M" Alkalinity in the feed water at levels ~ 60 ppm and higher can cause deposits in the extended condensate lines in contact with one of the amines in his formula?

A66. This request does not apply to the specifications, requirements, and conditions of the RFP.

Q67. Did your Consultant tell you that Morpholine is not practical if you are not operating your absorbers- even at that, the amine ratios are out of proper proportion? What is your Consultants boiler water experience? Please supply his written qualifications.

A67. This request does not apply to the specifications, requirements, and conditions of the RFP.

Q68. 50% liquid caustics is extremely hazardous, the use rate of this product will be relatively low and a lower percent solution would be advisable in case of a spill, it is heavy and dangerous to handle, has your Consultant informed you of the health and safety hazards? Do you know that a number of years ago, a county employee at the then VMC got caustic soda in his eyes and six months off for recovery?

A68. This request does not apply to the specifications, requirements, and conditions of the RFP.

Q69. Yellow metal inhibitor booster; does your Consultant know how to perform the Azole test? Have him submit the recommended test procedures and control limits. In fact, has your Consultant submitted complete control charts for all County treated systems and the tests required to monitor the application of chemical products and blow down with all written test procedures? We need this data.

A69. This request does not apply to the specifications, requirements, and conditions of the RFP.

Q70. Does your Consultant know that even though the test procedure for TTA and BTZ is the same, they have different multipliers therefore how do you know just how much Azole you have in the system if you have added BTZ to a system that already has TTA in it?

A70. This request does not apply to the specifications, requirements, and conditions of the RFP.

Q71. What is your Consultant's experience with TES systems? We have prepared specification for major TES systems > 5MM gallons capacity.

A71. This request does not apply to the specifications, requirements, and conditions of the RFP.

Q72. How is your Consultant going to verify DI water is used as diluents?

A72. This request does not apply to the specifications, requirements, and conditions of the RFP.

Q73. Since Mr. Bartosch has not even given San Joaquin Chemicals, Inc., representatives the opportunity to sit down with him over the last couple years, to discuss the added value of doing business with San Joaquin Chemicals, Inc., (a local company) after many attempts to do so. The County specification does allow for new and innovative products and processes. Even your Consultant must be aware of our Green approach to cooling water treatment applications. Why have we not been allowed this opportunity by the County?

A73. This request does not apply to the specifications, requirements, and conditions of the RFP.

World Laboratories, LTD.
11076 Fleetwood Street
Sun Valley CA. 91352
(818) 771-9344
(818) 771-1182 FAX
24-Hour Emergency Telephone Number CHEM-TEL (800) 255-3924
CHEM-TEL Contract Number MIS0004395

SAFETY DATA SHEET
BWT – 112
Steam Boiler Oxygen Scavenger

Section 1 – Chemical Product & Company Identification

Manufacturer's Name: World Laboratories, LTD.
Address: 11076 Fleetwood Street Sun Valley CA. 91352
SDS/Product Name: BWT - 112
Trade Name (as labeled): BWT – 112 Steam Boiler Oxygen Scavenger
Chemical Name(s): Sodium Sulfite, Sodium Metabisulfite
24 – Hour Emergency Telephone Number: 800.255.3924 (CHEM-TEL)
Business Telephone: 818.771.9344
Date of Preparation: 07.22.2014

Section 2 - Hazard Identification



Emergency Overview: WARNING! Keep out of reach of children! Can cause irritation if inhaled. Harmful if swallowed.

Appearance and Odor: Straw colored liquid; odorless

Systems of Overexposure for each potential route of exposure:

Inhaled: May cause irritation. May cause allergic reaction if inhaled by some asthmatics and other sulfite sensitive individuals.

Skin Contact: Prolonged contact may cause irritation.

Eye Contact: Vapors are irritating to the eyes. Eye exposure may result in redness, tearing or moderate eye irritation.

Ingestion: Harmful if swallow. May cause irritation of mouth, throat, nausea, vomiting and diarrhea.

Chronic Exposure: None known

Section 3 – Composition and Information on Ingredients

HAZARDOUS INGREDIENTS/CHEMICAL NAME	CAS #	PERCENT %
SODIUM SULFITE	7757-83-7	
Sodium METABISULFITE	7681-57-4	

Section 4 – First Aid Measures Emergency Procedures

Inhaled: Remove victim from contaminated atmosphere. If breathing is labored, administer oxygen. Obtain **IMMEDIATE** medical attention.

Skin Contact: Immediately flush with large quantities of water for at least 15 minutes. Remove contaminated clothing. Seek medical attention if irritation persist.

Eye Contact: Immediately flush with large quantities of water for at least 15 minutes. Be sure to hold the eyelids open while flushing. Obtain **IMMEDIATE** medical attention.

Ingestion: DO NOT INDUCE VOMITING! If victim is conscious, immediately give large quantities of water. If vomiting does occur, continue to give fluids. Obtain **IMMEDIATE** medical attention.

Suspected Cancer Agent? No

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Persons with pre-existing skin disorders, eye disease, asthmatics or cardiopulmonary diseases may be more susceptible to the effects of this substance.

Section 5 – Fire Fighting Measures

Fire extinguishing materials: Use Water or as appropriate for combustibles involved in fire.

Special fire fighting procedures: Wear self-contained breathing apparatus, positive pressure, MIOSH/NIOSH (approved or equivalent) and full protective gear.

Unusual fire and explosion hazards: Not combustible.

Flash Point: N/A

Flammable limits in air, Volume %: lower -N/D upper- N/D

Section 6 – Accidental Release Measures

Small releases: Confine and absorb small releases on sand, earth or other inert absorbent. Place contaminated product and soil in a suitable container for disposal.

Large releases: Confine area to qualified personnel. Wear appropriate protective equipment. Shut off release if safe to do so. Dike or divert spill area to prevent run-off into sewers, drains or surface waterways (potential aquatic toxicity). Recover as much of the solution as possible. Treat remaining material as a small release (above).

NOTE: Dispose of all waste in accordance with Federal, state and local regulations.

Section 7 – Handling and Storage

Handling: Keep out of reach of children! Handle in enclosed containers to avoid breathing product. Avoid contact with skin and eyes. Keep container sealed when not in use. Protect from extreme cold.

Section 8 - Exposure Controls /Personal Protection

Respiratory protection: Wear respirator in enclosed areas.

Eye protection (Type): Chemical goggles

Skin protection: Gloves, boots, and chemical suit should be worn to prevent liquid contact. Wash contaminated clothes prior to reuse.

Work practices, Hygienic practices: Use adequate exhaust ventilation to prevent inhalation of product vapors. Maintain eyewash/safety shower in areas where chemical is handled.

Section 9 - **Physical and Chemical Properties**

Physical state: Liquid

Appearance: Straw colored

Odor: Odorless

Vapor density (air=1): 0.62

Vapor pressure, mmHg: N/A

Specific gravity: 1.284

pH: 5.7

% Volatile: 87-90.5

Solubility in Water: 100%

Viscosity: N/A

Boiling point or range, F: 220°

Melting Point: - N/A

Evaporation Rate: 1.0

Section 10 – **Stability and Reactivity**

Stability ☒ Stable ☐ Unstable

Incompatibility (Materials to Avoid): Strong Oxidizers. Acids (release sulfur dioxide gas)

Conditions to Avoid: Normally stabilized

Hazardous decomposition products (including combustion products): N/A

Hazardous polymerization: ☐ May occur ☒ Will not occur

Section 11 - **Toxicological Information**

Harmful or fatal if swallowed!

Section 12 - **Ecological Information**

Do not apply directly to any body of water.

Section 13 – **Disposal Considerations**

Disposal: Dispose of all wastes in accordance with Federal, State and local regulations.

Section 14 – **Transport Information**

U.S. Department of Transportation, Canada TDG

Shipping Name: Non -Hazardous

Section 15 – **Regulatory Information**

CAS # 7757-83-7 is on the TSCA (U.S. Toxic Substance Control Act) inventory list

The components are not listed on California's Prop 65 list of chemicals known to cause cancer or other reproductive harm.

Canadian

WHMIS Classification:

CAS # 7757-83-7 is listed on Canada's Ingredient Disclosure List

Section 16 – *Additional Information*

SDS Creation Date: 07.22.2014

The information contained in this Safety Data Sheet (SDS) is based on current regulatory information as well as our manufacturers' information. It is the user's responsibility to determine the suitability of this information for the adoption of necessary safety precautions. We reserve the right to revise safety data sheets periodically as new information becomes available.