



Fort Collins Water Treatment Facility Standard Operating Procedure Purchasing Sodium Chlorite

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Section: Administration
Subject: FCWTF SOP for Sodium Chlorite Purchases
Revision: Rita DeCoursey
Revision Date: December 3, 2004

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PURPOSE

Establish guidelines for purchasing Sodium Chlorite (NaClO_2) for the Fort Collins Water Treatment Facility (FCWTF).

The mission of the Fort Collins Water Treatment Facility (FCWTF) is to "provide the community with a continuous ample supply of treated water that is pleasing, wholesome, free from known health risks, and affordable." The FCWTF purchases products by determining best value for the City. Best value is calculated by combining the following four components: (1) the chemical has been tested in the Pilot Plant and/or approved by the Water Treatment Quality Coordinator; (2) the chemical can meet or exceed all FCWTF standards, the AWWA standards, the NSF standards, and any other regulatory agency standards; (3) the supplier can meet all the FCWTF requirements; and (4) the cost is factored in once it has been determined that a supplier can meet items (1), (2), and (3) above.

HEALTH AND SAFETY ISSUES

For detailed information, please refer to the MSDS

1. Sodium chlorite solution is corrosive. The liquid can burn the skin and eyes on contact. Sodium chlorite solution is a REACTIVE CHEMICAL and is an EXPLOSION HAZARD when mixed with organic material or acids.
2. NFPA Hazard Rating includes:
 - Health=3
 - Flammability=0
 - Reactivity=1
3. Personal Protective Equipment:
 - Impervious gloves and goggles. If there is prolonged or repeated contact, completely impervious clothing should also be used.
4. Leaks and Spills:
 - Dilute small spills or leaks with plenty of water.
 - **Wash down any spilled material into the containment vault and follow Operations procedures.**
 - Notify supervisor.





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INFORMATION FOR THE FORT COLLINS WATER TREATMENT FACILITY (FCWTF)

1. Sodium chlorite is budgeted in account 502-032201-534180.
2. Sodium chlorite is used in the on-site production of chlorine dioxide.
3. Delivery of sodium chlorite is to be made within **10 days** after placing an order.
4. FCWTF will reject delivery of any chemical containers which appear to be leaking or have been damaged so that the structural integrity is questionable. Any shipments that do not have an associated Certified Analysis faxed prior to delivery will not be accepted.
5. FCWTF requires that all manufacturers of sodium chlorite have their product tested in the FCWTF Pilot Plant for a period of one year. Any manufacturer failing to meet the one year study is not considered a potential supplier.
6. FCWTF will reject any shipments that do not meet its standard in quality or delivery safety. The Supplier will pay the freight for any rejected shipments.

Sodium Chlorite

1. Sodium chlorite must meet the most current American Water Works Association (AWWA) Standard for Sodium Chlorite.
 - A. Sodium chlorite supplied according to this standard shall contain no inorganic or organic substances in quantities capable of producing deleterious or injurious effects on the health of those consuming water that has been properly treated with the sodium chlorite not shall such quantities be capable of causing water so treated to exceed the USEPA safe drinking water standards.
 - B. Purity. Sodium chlorite based on 80 percent sodium chlorite content shall contain not more than the following percentages of specific impurities by weight:

Sodium chloride-17.0%	Sodium hydroxide-3%
Sodium carbonate-2%	Sodium sulfate-3%
Arsenic-.0003%	Sodium nitrate-.1%
Sodium chlorate-1%	
2. Sodium chlorite must meet the National Sanitation Foundation (NSF) Standard 60.

SUPPLIER

1. Supplier must guarantee sodium chlorite meets or exceeds the most current AWWA Standard for Sodium Chlorite.
2. Supplier must guarantee sodium chlorite meets or exceeds the most recent version NSF Standard 60.
3. Supplier must provide a Certified Analysis of impurities with each shipment. This analysis can be faxed prior to delivery or presented by the delivery driver. Failure to provide this analysis can be a basis for rejection of the shipment.
4. Supplier will guarantee the safety of the delivery vehicle and delivery containers.
 - A. Containers must meet industry standard for hauling sodium chlorite, stainless steel or any other suitable material that will not be attacked by the strongly oxidizing solution.





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- B. Supplier must ensure that the container is in suitable condition for hauling sodium chlorite and that it does not contain any substances that might affect the use or usefulness of the sodium chlorite in treating municipal water supplies.
- C. Containers leaving the Suppliers property should not be leaking fluids, have bulging in any portion of the container, and have connectors that are free from damage.
- D. Delivery vehicles must meet or exceed all current State of Colorado Department of Transportation (CDOT) regulations.
5. Supplier must inspect the delivery container prior to loading of the chemical to ensure no contaminating material or residue exists in the container.
6. Supplier is required to have a method to ensure that tampering has not occurred from the point of origin to FCWTF unloading point. This is typically done by a metallic, numbered "tie" which must be cut to open the hatch or cam lock. All other methods need to be approved by the FCWTF.
7. Each year in January, the supplier will mail to FCWTF a new copy of the MSDS sheet and/or the web site location of the most current version.
8. Each year in January, the supplier will mail to FCWTF a copy of the NSF Certification.
9. Supplier will be responsible for shipping costs if the shipment is rejected and returned for not meeting the standards expressed in this SOP.

DELIVERY

1. All chemical suppliers must fax to the FCWTF (970-221-6736) the following information **prior to delivery**:
 - a) the name of the driver making the delivery
 - b) the numbers of the tractor and trailer transporting the chemical
2. **Delivery trucks must park in the designated area on the north side of LaPorte Avenue outside of the entrance gate. Use a cellular phone to call the facility at (970)221-6690 or walk to the entrance kiosk and press the red call button. Please do not block the facility entrance on LaPorte Avenue. All deliveries are checked by FCWTF personnel prior to entry.**
3. The receptionist or person answering the telephone must contact the Duty operator. The Duty operator will verify the delivery from the schedule board. The operator or designee will meet the truck at the parking area **outside** the gate.
4. FCWTF personnel will verify that the faxed information matches up with the driver and the delivery vehicle arriving at the FCWTF. If the driver's ID or the tractor and trailer numbers do not match, the truck will not be allowed to enter the facility. The Plant Superintendent will be contacted and the delivery may be rejected.
5. Delivery drivers will provide a sample and submit it to the Operator at the time of delivery. The Operator will take the sample to the on-site Laboratory Technicians for analysis.
6. The security verification, the supplier's quality assurance analysis, and the City's lab analysis will be given to the Water Quality Coordinator in order to identify the load in the event of any problems.
7. The delivery driver will wash down under the trailer and use a bucket to catch any sodium chlorite that drips while unloading.





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8. The delivery driver will wash down the entire area once the delivery has been completed to prevent any dry sodium chlorite from remaining on the pavement.
9. Delivery drivers are required to provide certified weight tickets for both the empty and loaded weights of the tractor and trailer unit. All weight tickets should have the tractor and trailer numbers written on them, as well as the name of the facility, FCWTF.
10. Delivery of sodium chlorite is to be made within **10 days** after placing an order.
11. Delivery drivers are responsible for off-loading the sodium chlorite. FCWTF personnel are not allowed to connect or disconnect any supply hoses. FCWTF personnel will give instructions to the delivery driver on chemical off-loading in accordance with FCWTF SOP for Sodium Chlorite Delivery.
12. Delivery drivers will be responsible for chocking trucks during delivery. Chocks will be provided by FCWTF.
13. Delivery drivers should meet with the operator to become familiar with the location of phones, alarms, and emergency showers that are nearest to the off load location.

PURCHASING

1. All contracts and purchases will be made in accordance with the City of Fort Collins Purchasing Department (FCPD) Purchasing Procedures. A copy can be obtained through the Purchasing Department. The Purchasing Department will ensure adherence to the FCPD Purchasing Procedures.
2. FCWTF requires that all suppliers submit the names, locations, and phone numbers of three current clients as part of any bidding process.
3. FCWTF requires that all suppliers submit a list of intended delivery agents (motor carrier) and a letter from the U.S. Department of Transportation, Federal Highway Administration, stating the Motor Carrier Safety Rating for the company as part of any bidding process. Each listed motor carrier's rating must be Satisfactory or above to be considered in the bidding process.
4. FCPD representatives are responsible for ensuring that the items noted in this SOP could be met by the supplier before any contract is awarded.
5. The FCWTF and FCPD will establish, at the beginning of each New Year, a Blanket Purchase Order.
6. FCWTF Plant Supervisor or his designee will place delivery orders on that Purchase Order throughout the year. FCWTF must be able to place orders using telephone, fax, or electronic mail.
7. When placing an order, a delivery date will be specified.
8. This SOP can act as the sole-source justification if only one supplier can meet the criteria specified above.

