Presented by

EGSW

ODOR-SOLVE

FILTER SYSTEM

Technical Manual

cleaning the air we breathe

What is ODOR-SOLVE?

- air cleaning filter system
- eliminates odors that escape from the vent
- does not add solids to the system
- is not harmful to bacteria in the system
- recycle system makes the chemical last longer
- 55 gallon drum lasts 2-8 weeks
- custom made filter unit to suit your needs
- inexpensive filter replacement
- not a masking agent

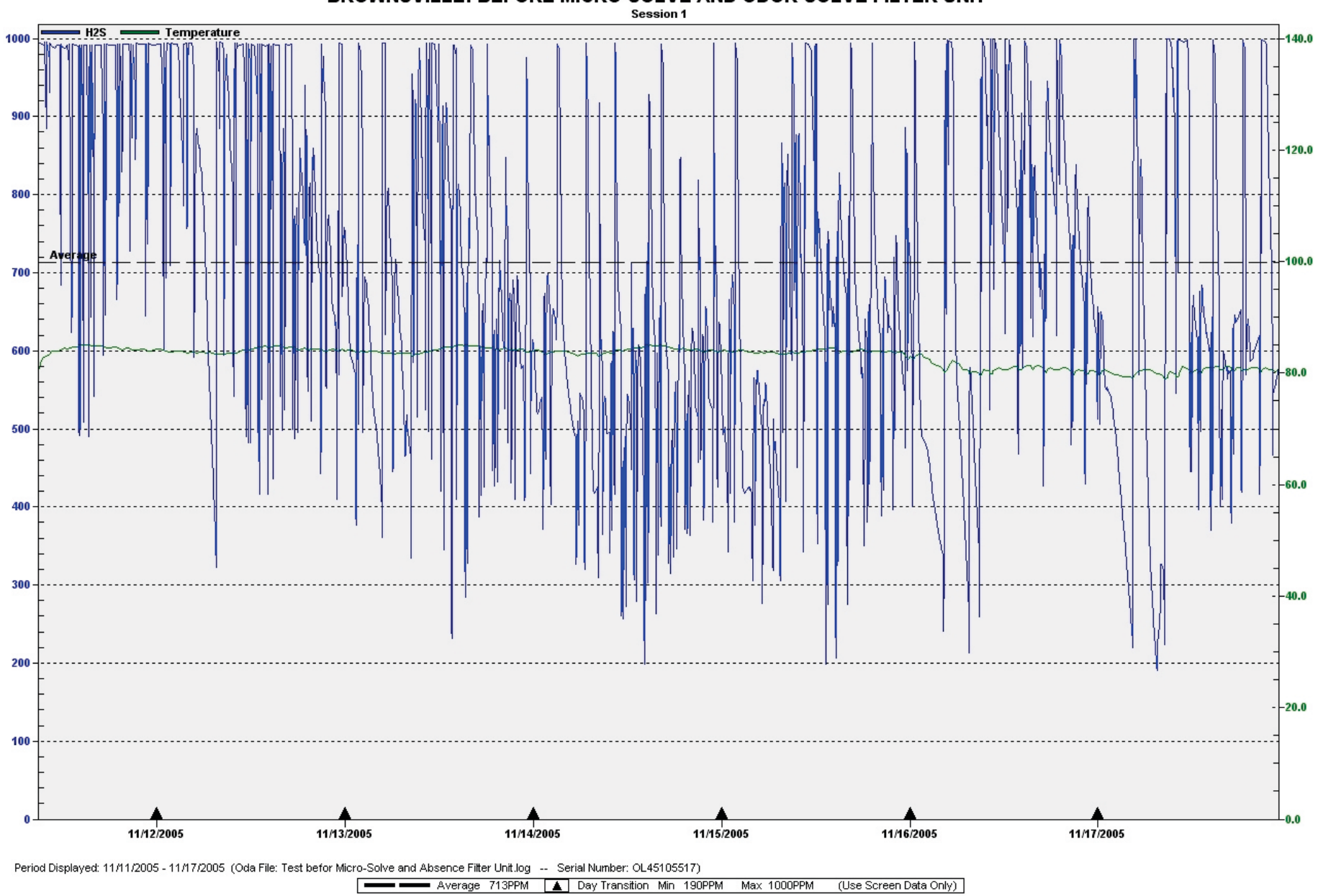
EGSW ODOR CONTROL SYSTEM

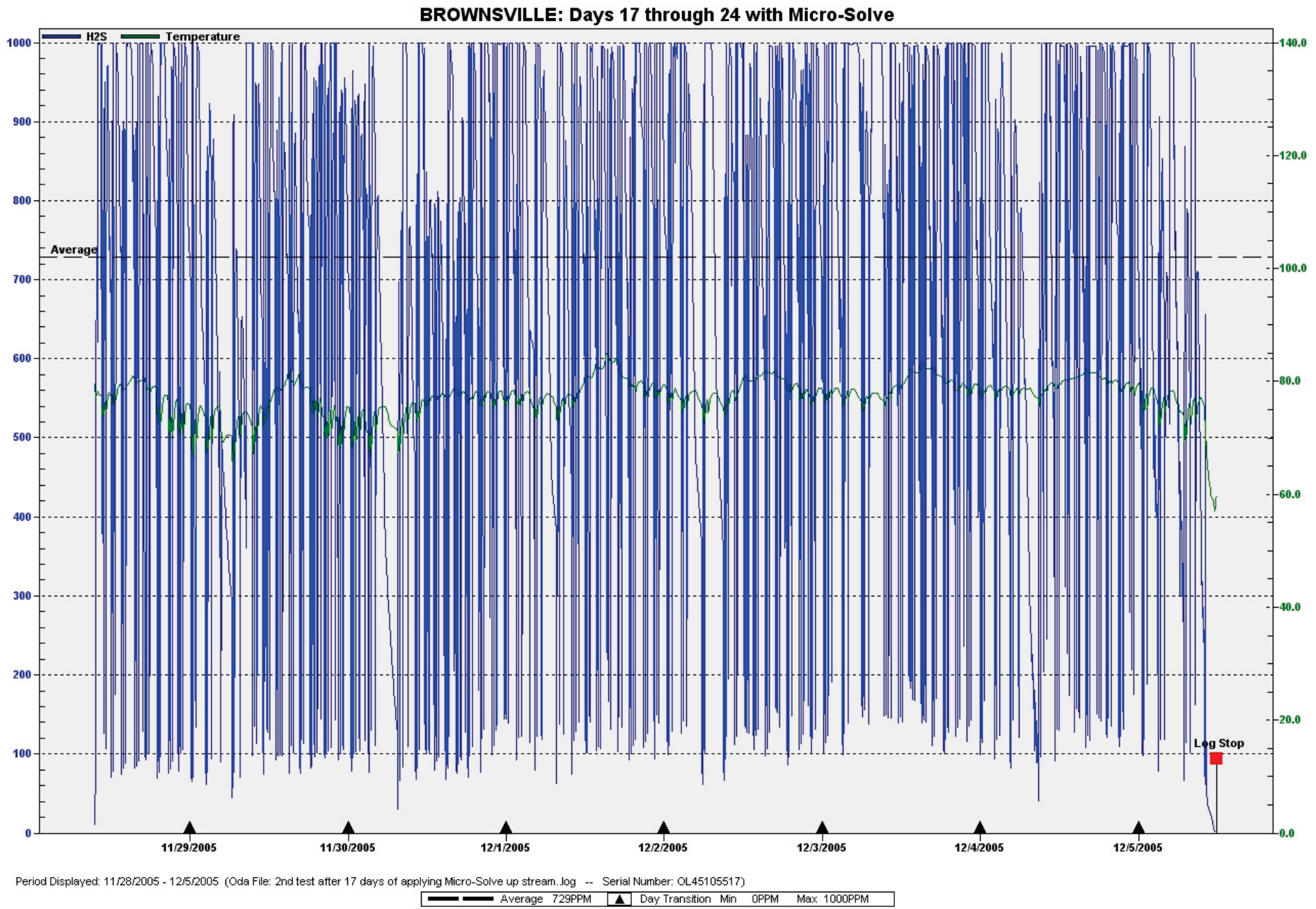
Odor problems can be bothersome, hazardous and bad for health. Hydrogen sulfide (H2S) generation in sewer systems can cause sewer corrosion, safety hazard, and annoying odor complaints.

EGSW ODOR CONTROL SYSTEM will take the odor out of the air at the vent. This will stop the odor from being detected to the general public immediately. To take care of the odor in the collection lines, use MICRO-SOLVE®.

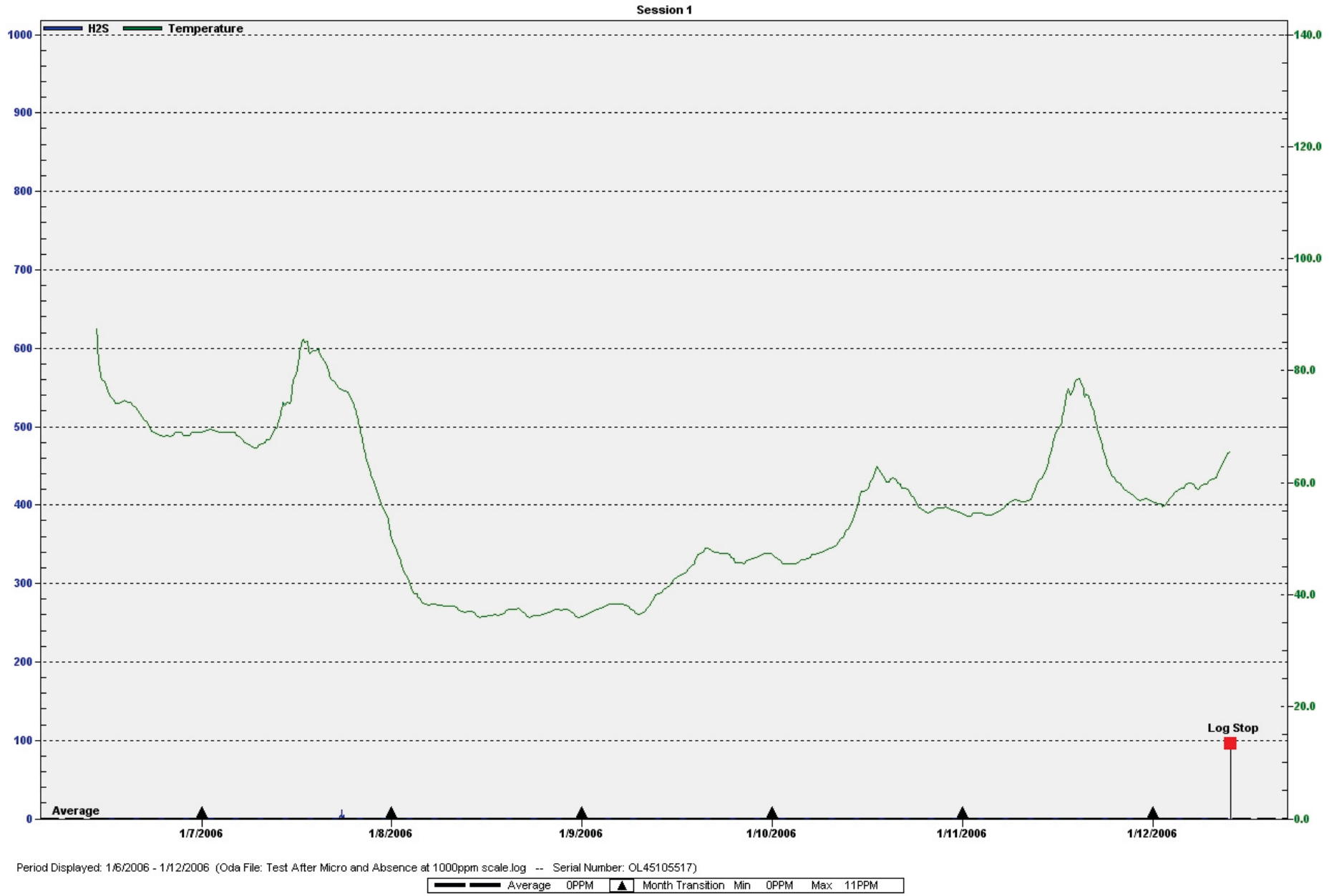
ODOR-SOLVE filtration system is an immediate elimination to H2S and other bothersome gasses. ODOR-SOLVE is NOT a masking agent. The filter system is attached to the location where the odor is being released to the environment. ODOR-SOLVE will eliminate the odor on instant contact with the filter. H2S levels as high as 2000 ppm are being lowered to below 5 ppm.

Using MICRO-SOLVE® up stream, from where the gases are being released, will clean the collection line and lower the amount of gas being created. This will get rid of grease and sludge build up in the line. Getting rid of the grease and sludge build up, not only gets rid of grease related problems, it also lowers the amount of gas being created. This allows the ODOR-SOLVE chemical to last longer. Notice graph 2 of the Brownsville pilot where gas levels are changing with the use of MICRO-SOLVE®.


BROWNSVILLE: BEFORE MICRO-SOLVE AND ODOR-SOLVE FILTER UNIT
Session 1
H2S
Temperature
Average
1000
900
800
700
600
500
400
300
200
100
0
140.0
120.0
100.0
80.0
60.0
40.0
20.0
0.0
11/12/2005
11/13/2005
11/14/2005
11/15/2005
11/16/2005
11/17/2005
Period Displayed: 11/11/2005 - 11/17/2005 (Oda File: Test befor Micro-Solve and Absence Filter Unit.log -- Serial Number: OL45105517)
Average 713PPM
Day Transition Min 190PPM Max 1000PPM (Use Screen Data Only)


BROWNSVILLE: Days 17 through 24 with Micro-Solve
H2S
Temperature
Average
Log Stop
1000
900
800
700
600
500
400
300
200
100
0
140.0
120.0
100.0
80.0
60.0
40.0
20.0
0.0
11/29/2005
11/30/2005
12/1/2005
12/2/2005
12/3/2005
12/4/2005
12/5/2005
Period Displayed: 11/28/2005 - 12/5/2005 (Oda File: 2nd test after 17 days of applying Micro-Solve up stream..log -- Serial Number: OL45105517)
Average 729PPM
Day Transition Min 0PPM Max 1000PPM

BROWNSVILLE: MICRO-SOLVE APPLICATION WITH ODOR-SOLVE ODOR CONTROL FILTER UNIT.



Period Displayed: 1/6/2006 - 1/12/2006 (Oda File: Test After Micro and Absence at 1000ppm scale.log -- Serial Number: OL45105517)

Average 0PPM | Month Transition Min 0PPM Max 11PPM

SAFETY DATA SHEET

IDENTITY: ODOR-SOLVE

MANUFACTURER: DAVID J. MCGARVA
944 Blanding Blvd., Ste. 109
Orange Park, FL. 32065
Emergency: 904-272-6446
Outside U.S.A.: 904-272-6446
Information: 904-272-6446

DATE PREPARED: 04/20/06

SECTION I - HAZARDOUS INGREDIENTS / IDENTITY INFORMATION

Hazardous Components: OSHA PEL ACGIH TLV %(OPTIONAL)
NONE

Caption: All ingredients used in this product are not listed under Sara Title III Section 302 extremely hazardous substances is (40 CFR 355). This product is not listed under Sara Title III Hazard category (40 CFR 370): Immediate (acute) health hazard.
This product does not contain a toxic chemical subject to the reporting requirements of Section 313 of Emergency Planning and Community Right-to-Know Act of 1986

SECTION II - PHYSICAL / CHEMICAL CHARACTERISTICS

Boiling Point: 1355°C (2471°F) **Specific Gravity:** 2.1 g/ml
Vapor Pressure: Not Applicable **Solubility in Water:** % by wt. @ 25°C(77°F): 45.4
Appearance and Odor: Clear odorless liquid **pH:** (7% solution) @ 25°C: 6

SECTION III - FIRE AND EXPLOSION HAZARD

Flammable limits: Not Applicable
General Hazard: No known physical hazard, non-combustible
Extinguishing Media: Dry chemical, CO2, water spray or regular foam
Hazardous Combustion Products: None
Special Fire Fighting Procedures: Wear full protective clothing and self-contained breathing apparatus (SCBA) approved for fire fighting. This is necessary to protect against the hazards of heat, products of combustion and oxygen deficiency. Do not breathe smoke, gases or vapors generated.
Autoignition Temperature: Not applicable
Properties Contributing To Flammability: None **Flash Point:** Not applicable
Sensitivity to Static Discharge: Not applicable **Sensitivity to Impact:** Not applicable

SECTION IV – STABILITY AND REACTIVITY

Conditions to avoid: Contact with acids
Stability: Stable
Incompatible Materials: Strong Acids
Polymerization: Will not occur.
Hazardous Decomposition Products: None

SECTION V - HEALTH HAZARD DATA

Emergency First Aid

Skin: Wash with plenty of soap and water. Get medical attention if irritation occurs and persists.
Eyes: Flush eyes and lids with clean water for at least 15 minutes. If irritation occurs and persists, contact a medical doctor.
Ingestion: Drink 1 or 2 glasses of water and induce vomiting by touching the back of the throat with a finger or by giving syrup of ipecac. NEVER INDUCE VOMITING OR GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. Contact a medical doctor.
Inhalation: Move exposed person to fresh air. If breathing difficulty or discomfort occurs and persists, contact a medical doctor..
Notes to Medical Doctor: This product has low oral, dermal and inhalation toxicity, and is a mild irritant. Treatment is controlled removal of exposure followed by symptomatic and supportive care.

SECTION VI - SPILLS OR LEAK PROCEDURES

In case of Leak or Spill: Absorb spills with suitable absorbent) and collect in DOT approved containers for disposal.
Waste Disposal Method: Dispose of contaminated product and materials used in spill clean-up according to local, state and federal regulations. Product is not listed under CERCLA REGULATORY (40CFR 302.4). This product is not subject to TSCA 12 (b) Export Notification Requirements

SECTION VII - SPECIAL PROTECTION INFORMATION

Respiratory Protection: Not normally required with adequate ventilation.
Local Exhaust: Recommended. Mechanical: Not Applicable
Special: Exhaust fumes and vapors from work areas.
Other: Avoid breathing spray mist or vapors.
Protective Gloves: Wear chemical resistant gloves.
Eye Protection: Chemical splash goggles are recommended.
Other Protection: Contact lenses should not be worn. Impervious clothing & boots should be worn for prolonged use.
Work/hygienic Practices: Wash hands thoroughly with water after handling. Remove contaminated clothing promptly and wash and rinse thoroughly before re-using.

SECTION VIII - SPECIAL PRECAUTIONS

Handling: Avoid contact with eyes, skin or clothing. Use with adequate ventilation. Wear safety glasses or goggles and rubber gloves. Wash thoroughly after handling
Storage: Keep away from strong acids
All statements information and data provided in this MSDS are believed to be accurate and reliable, but are presented without guarantee, warranty, or responsibility or any kind, expressed or implied, on our part. Users should make their own investigations to determine the suitability of the information or products for their particular purpose. Nothing contained herein is intended as permission, inducement or recommendation to violate any laws or to practice any invention covered by existing patents.

Odor-Solve Chemical Application
For Controlling High Levels of H2S

Inside the well- H2S levels rise and the amount of gas must be displaced. Most well have a "Vent" to release the gasses escaping from the wells. Gasses will seek any opening and sometimes create their own. We use a fan to keep a positive air flow moving through the vent so as to lower the gasses building up in the well and leaving through alternate openings.

Vent- The vent is usually a 2-16 inch PVC placed on the top of the well. Gasses are meant to escape through this vent. The gasses will however seep through the doors and other openings that are lower then the opening of the vent.

Filter- The filter is a porous fabric that is not expensive. And usually has to be replaced every other year at a cost of $50. The filter is saturated with the Odor-Solve chemical. The chemical is pumped at 140 gallons per day. There is a constant cycle of chemical. This amount may be lowered.

Pump- The pump puts out about 25 psi and can pump as much as 140 gallons per day.

Chemical Injection point- This is the point where the chemical "Odor-Solve" is injected onto the filter material. So as to coat the material with this deodorizing chemical.

Fan- The Fan is separate from the flow of gas; so as to minimalize the effects of the gasses on the fan. It may have to be replaced every year and is not very expensive. The Fan keeps a positive air flow moving through the filter. This keeps the gasses from building up to high levels of H2S and high pressure of gas. This lowers the amount of gas surges that the filter has to treat. The fan keeps an air pull coming out of the well through the PVC Vent. Lowers the amount of gas leaking through the doors and other openings. IT is recommended to customers that the doors and any opening should be sealed.

Exit- This is where the Air is expelled.

Return Hose- As the filter becomes saturated, the excess chemical will fall off the filter and go through the return hose and back into the drum. This will take particles of gas molecules into the drum.

Second fan- This is a second fan that is not on these pictures. The purpose of this second fan is to empty the contents of the used drum into the well. This will make the changing out of chemical drums easier for the workers.

Disposal Instructions for ODOR-SOLVE

ODOR-SOLVE is a proprietary chemical deodorant for odor control that has a normal pH of 12.0 12.25. The substance is very basic and as with all strong bases it can be neutralized with a strong acid. If the following instructions are used it will leave you with a neutral substance that can be disposed of in a sanitary sewer with no side effects.

Directions to neutralize the product:

In its factory form it will require 1.5 gallons of MURIATIC ACID (trade name) (Hydrochloric Acid 20 degree Baume or 31.45% HYDROGEN CHLORIDE) (Commercial Swimming Pool Acid) to 55gals of ODOR-SOLVE. This should bring the chemical down to a 6.8-7.4 pH. Depending on the starting pH of the chemical (fresh/ new chemical 12.0-12.25) will be the determining factor for the acid addition. As the ODOR-SOLVE is used up by the acids, due to the Hydrogen Sulfide gas being stripped, the pH of the chemical dissipates. Once the chemical has oxidized its total potential; it will be near neutral pH and can be disposed of in a common sanitary sewer. State requirements for disposal are between 6-9 pH. It is important to test the pH before disposal and bring it to a near neutral range by the addition of the correct amount of acid; too much acid and the substance will head to an acidic range too little and it will remain too basic for disposal.

Instructions for neutralizing ODOR-SOLVE:
WEAR PERSONAL PROTECTIVE EQUIPMENT including goggles and face shield, long rubber gloves rubber apron.

If pH is below 10.0 pH:
Slowly add MURIATIC ACID (½ gallon to begin with) to the ODOR-SOLVE mixing or circulating the substance while adding the 1 ½ Gallon. Test pH as you add the acid this should take about 5 minutes depending on the circulation rate. As the acid is added you will see a drop in the pH when it reaches 8.0 allow mixture to circulate for a complete turn over of chemical. If you have a pump capable of 100 gallons per minute let it circulate 5 minutes then test the pH if it is still above 8.0 add ounces of acid to the barrel watching the pH. You
do not want to drop the pH to an acid solution at this point. As it approaches 7.0 pH DO NOT ADD ANY MORE ACID. Once it stabilizes between 6.8 and 7.4 it is safe to dispose of in a common sanitary sewer. This will prevent any shock to the sewer system.

If solution is above 10.0 pH:
Add 1 gallon as stated above checking pH regularly until the desired pH is achieved for disposal.

Reference Numbers

Steve Besner
Crossroads Utility
Barton Creek Country Club
512.820.8459

Lloyd Juarez
San Marcos TX. 512-393-8010
Water/Wastewater Forman

Omar Cantu
City of Mission TX. 956.222.5149
Utility Supervisor.

Jesse Aguirre
North Alamo Water
Utility Supervisor. 956.532.9600

Tavo Ochoa
Laguna Madre Water District
956-433-7387

William Abshire
Crossroads Utility Services
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Southwest Region

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troy@egsw.us
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ODOR-SOLVE EGSW EVERGREEN SOUTHWEST

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