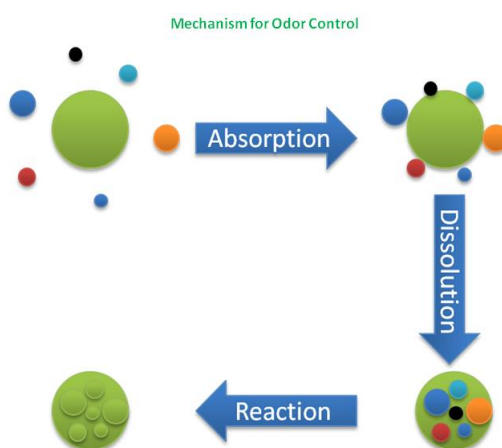


Odor Control Chemicals

1. Introduction of Odor Control Chemical

POLYTE[®] Sorb909 series is a blend of plant extracts derived from odor-containing natural organic matter extracted from plants such as trees, grasses and flowers with very high reactivity after modified and compounded. The plant liquid forms tiny droplets and create chemical reaction with odour molecule to remove odors by use a proprietary atomization device.

2. Principle of Deodorization



- The deodorization process of the POLYTE[®] Sorb series is very complicated. The basic principle is that after atomization, it combines with the odour molecules in the air to create chemical reaction. The key following stages showed as below: after the atomization, the deodorizing liquid forms extremely tiny deodorizing droplets and combine with the odour molecules by van der Waals force, thereby absorbing and infiltrating into the droplets. The Odour molecules will be eliminated by this chemical reaction.

- The plant extracts atomized into small droplets by POLYMER special atomizing equipment and then contacted with odor substances during the implementation process. It is fully contacted with odour molecules through absorption and adsorption, and increases the solubility of odour molecules in the deodorizing droplets. Then, a series of reactions with the odour molecules are carried out to form non-toxic and harmless compounds to achieve the purpose of completely odor elimination.

3.Product Features

Advantage of POLYTE[®] Sorb:

- It is not a masking Chemical that can completely convert odor components such as hydrogen sulfide and ammonia into harmless and odorless substances.
- Henry's Law dissolved gas molecules to reach equilibrium in the plant liquid. POLYTE[®] Sorb enhances the ability of plant liquids to absorb gases by increasing the solubility of gases in plant fluids.
- The optimum liquid ratio products by supporting special equipment ensure the deodorizing effect and maximize the economy.

- POLYTE® Sorb has the advantage of low one-time investment and quick effect compared to other odor remove technologies, almost no need for additional upgrade to the original equipment and easy to operate;
- No irritating odor and no corrosiveness, meets the requirements of relevant national standards.
- Non-toxic, non-flammable, biodegradable and will not cause secondary pollution to the environment.

4. Product Physical Characteristic

- Product List

Product Name	Feature	Status	Soluble	Density (25 °C)	Package
POLYTE® Sorb909A	Broad spectrum deodorization. It has a good removal effect on hydrogen sulfide, ammonia, mercaptan and else. Suitable for decontamination in waste incineration power plants, garbage transfer stations, sewage, leather, etc.	Ivory Liquid	Dissolved in water	0.97~0.99	25Kg/Barrel
POLYTE® Sorb909B	Effective treatment for exhaust gases with organic odor components that contain alkenes. Special model for the pharmaceutical industry	Ivory Liquid	Dissolved in water	0.97~0.99	25Kg/Barrel
POLYTE® Sorb909C	Quickly absorb volatile sulfur and amine odor gases. Specific model for paper industry.	Ivory Liquid	Dissolved in water	0.97~0.99	25Kg/Barrel
POLYTE® Sorb909S	Low concentration plant extract odor control chemical, 100~150 times dilution for use.	Ivory Liquid	Dissolved in water	0.97~0.99	25Kg/Barrel

- Product Use

- Dosing method: Dosing by atomization equipment, POLYMER recommends the special atomization dosing equipment.
- Dosage: According to different site conditions (diluted 100~300 times with water), POLYMER's engineers will recommend the best dosage.
- Dosing Attention: Slightly deposition after long time storage, shake before use.

- Package, Transportation, Store and Quality Assurance

- 25Kg/ Barrel.
- Packaging and Loading must be secured during transportation. Not leak, collapse, falls, and damaged during transportation. Mix transportation with oxidants, reducing Chemicals, alkalis, food chemicals, etc. is strictly forbidden. It should be protected from exposure, rain and high temperature during transportation. The vehicle should be thoroughly cleaned after transportation.
- Store in a cool, ventilate warehouse. Keep away from fire and heat. It should be stored separately from oxidants, reducing agent and alkalis.

- Two years expire date. Please refer to MSDS (Material Safety Data Sheet) or COA (Certificate of Authenticity) for this product

5. Product Safety

POLYTE[®] Sorb has passed the test run by Chinese Center for Disease Control and Prevention, tests are included:

The results of acute dermal irritation test on rabbits are showing positive and the results of acute oral toxicity test on mice are showing practically non-toxic.

POLYTE[®] Sorb is also registered with the FDA (United States Food and Drug Administration)



6. Application Fields

POLYTE[®] Sorb can be used to improve odor issues several fields.


Industry Field

- Pharmaceutical industry
- Paper Industry
- Leather industry




Municipal Solid Waste

- Landfill
- Waste Incineration Power Plant
- Waste Transfer Stations
- Sewage Disposal Plant



Other Fields

- Food Processing
- Culture
- Public Area



Atomization Deodorization Equipment

1. High Pressure Atomization Equipment

- Equipment Introduction

The high pressure atomization deodorization system consist control system, automatic dispensing device, and spray system. Use the micro-mist model of the special atomizing nozzle to spray automatic proportioning plant deodorant into the air and the ground through the high-pressure pump in the PLC control system. It is in full contact with the odour molecules in the space and fully reacts to decompose the odour molecules, thereby eliminating the odor of the space and address both the symptoms and root cause to achieve the purpose of deodorization.



- Features of POLYMER Atomization Deodorization Equipment

The whole set of spray deodorization system consists of high pressure piston pump, dosing box, stainless steel conveying pipe, high pressure nozzle, PLC control system, deodorizer automatic dispensing system, Automatic start/stop system, electromagnetic valve, etc. It is currently the most advanced and stable spray equipment in China whichever is elegant, rugged, stable, easy to operate and easy to maintain.

- Control system: The whole system adopts automatic PLC control system and automatic spray. Spray time and interval settings can be made and the operation flow is visually displayed by the PLC touch screen.

- Dosing system: After the water is filtered by the filter, it is automatically matched with a precision proportional pump and then entered into the dosing box. The dosing box is made of imported Type 304 stainless steel with t liquid level display which is beauty, firm and corrosion resistant. The liquid storage tank is equipped with a low liquid level alarm and other devices.

- Transfer pump: The imported drug transfer pump is made of type 304 stainless steel with the benefit of long life, low noise and stable operation, suitable for long-term non-stop operation.

- Pipes and nozzles: special stainless steel pipelines are used to adapt to complex environments. The pipeline has good corrosion resistance, easy arrangement and elegant in appearance. The special

atomizing nozzle is used, the maximum atomizing spray distance is $\geq 5\text{m}$, and the atomization particle size is 10 microns.

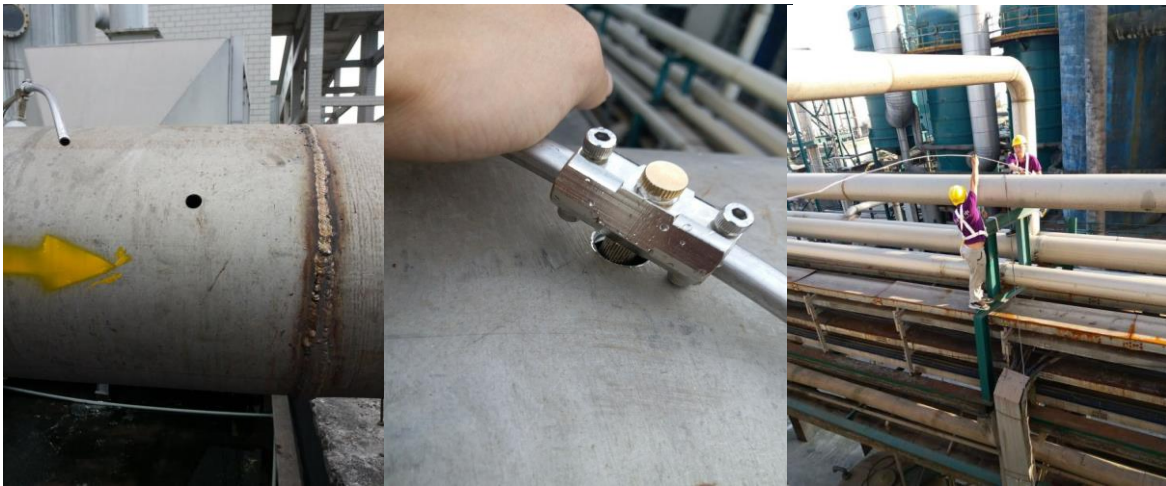
- Scope of Application

Paper pulping, pharmaceutical plants, garbage transfer stations, waste incineration power plants, farms, sewage treatment plants and other areas. Applicable to most of the organizational or inorganizational emissions.

Project Case

1. Exhaust Gas Deodorization for Dne of the Biggest Domestic Paper Making Factory

Exhaust System introduction		Hydrogen Sulfide Removal Effect			
Height of Exhaust Pipe	15	Time	Atomization equipment	Concentration mg/m ³	Removal Rate
Air Flow Volume	2×10 ⁴	9:45	Off	72	
Wind speed	11	10:15	Turn on (After 30mins)	9	87.5
Pipe Thickness	12	10:45	Turn on (After 60mins)	7	90.3



2. Large-Scale Domestic Paper Factory Sludge Workshop Deodorization

POLYTE® Sorb909C Odor Control Chemical combined with a high pressure spray deodorization system for deodorization in sludge plants. There was no obvious smell in the workshop after the implementation of the equipment.



3. Deodorization of Garbage Bridge and Discharge Hall for a Large Domestic Garbage Incineration Power Plant

No obvious odor in the workshop and the factory area after the utilization of POLYTE[®] Sorb909A odor control Chemical combined with high pressure spray deodorization system for discharge hall, Garbage Bridge, garbage storage, etc.



4. Deodorization of domestic landfill



5. Other Field (garbage transfer station, sewage treatment plant)



Deodorization Questionnaire

Inorganizational Emissions and Deodorization System Survey

Date _____

Company Name _____

Address _____

TEL _____

E-mail _____

Contact Person _____

Position _____

1. Site Introduction

1) Production Type of Your Company (pharmaceutical / paper / leather / waste incineration) _____

2) Odor-Producing Area (sewage / production workshop) _____

3) Odor-producing area space _____

4) Key odor Types _____

2. Atomization Deodorization Equipment (no need to fill in if no any)

1) Atomizing High Pressure Pump

Rated Flow _____ Liter/Min Working Pressure _____

2) Automatic Dosing Pump

Brand _____ Adjustable Dilution Ratio Range _____

3) Pipe material: High Pressure PE Pipe Stainless Steel

4) Diameter of Spray Pipe

O.D. _____ mm I.D. _____ mm

5) High Pressure Spray Nozzle

Type of Nozzle (# 1/2/3/4/5) _____ Number of Nozzle _____

6) Other Spray Equipment (centrifugal atomization equipment / fog gun)

Type _____ Number _____ Power _____

Pump Head _____ Atomized Particle Size _____ Micron Meter _____

3. Deodorant Use

1) If any odor control product is used, the manufacturer: _____ Date of Use _____

2) Current Use Odor Control Agent: Physical Chemical Bio Plant

3) Use Method (dilution factor / dosing position) _____

4) Effect _____

5) Daily Dosage _____ Kg Reason for stop _____

6) Suggestions to the effect of odor control system? Briefly Description

_____ ;

7) Note: Process pictures, on-site pictures etc.

Organizational Emissions and Deodorization System Survey

Date _____

1. Company Name _____

Address _____

TEL _____

E-mail _____

Contact Person _____ Position _____

1. Site Introduction

1) Production Type of Your Company (pharmaceutical / paper / leather) _____

2) Odor-Producing Area (sewage / production workshop) _____

3) Key Odor Types _____

4) Odor concentration of exhaust gas treatment system

Total odor Concentration of exhaust gas treatment system inlet: _____

Exhaust gas system inlet odor concentration (H₂S, NH₃, etc.): _____

Exhaust gas system outlet odor concentration: _____

Exhaust gas system outlet odor concentration (H₂S, NH₃, etc.): _____

5) On-site odor detection means

Number of scent guider: _____ Odor concentration detection instrument (portable / fixed): _____

2. Exhaust Gas Deodorization System

1) Exhaust gas deodorization process (alkali spray / UV photocatalysis / ozone oxidation / activated carbon combinations one or several or other): _____

2) Physical parameters of exhaust gas

Exhaust air volume (m³/h) _____ wind speed _____

3) Air Duct parameters

Air Duct Diameter _____ Air Duct Length of Deodorization Equipment _____

Air Duct Material _____ Air Duct Thickness _____

3. Use of Deodorant

1) If any odor control product is used, the manufacturer: _____ Date of Use _____

2) Current Use Odor Control Agent: Physical Chemical Bio Plant

3) Use Method (dilution factor / dosing position) _____

4) Effect _____

5) Daily Dosage _____ Kg Reason for stop _____

6) Suggestions to the effect of odor control system? Briefly Description

_____ ;

7) Note: Process pictures, on-site pictures etc.