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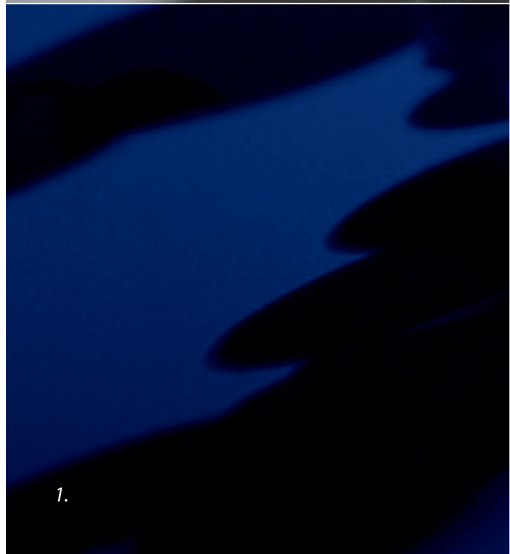
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MISSION
STATEMENT

"TSS will provide the highest quality services
to meet and exceed our client's
expectations."

INTRODUCTION



1.

COMPANY OVERVIEW

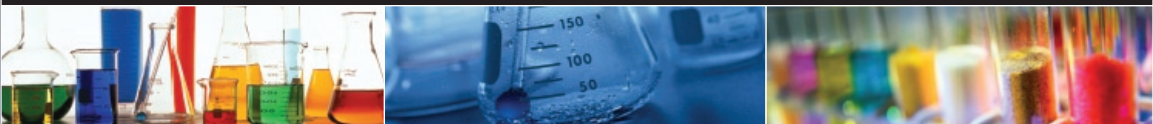
Technical Safety Services, Inc. provides comprehensive testing and certification, calibration and air balancing services. TSS has been in business for over 35 years and provides services to major biotechnology, pharmaceutical and medical device industries, as well as the research community. During this time, we have developed a reputation for providing quality services to our clients - industry leaders that demand strict adherence to performance standards.

TSS is one of the largest testing and certification companies in the United States. Our corporate headquarters are located in Berkeley, California and we maintain regional offices throughout Southern California, Washington, Colorado, Connecticut, Maryland, New Jersey, and New York. With nine offices throughout the United States, TSS is uniquely positioned to provide responsive nationwide service.

TSS is committed to providing quality field testing and certification services by exceeding the needs and expectations of our customers. We continually monitor the quality of services provided to all clients and have established quality control measures to assure clients of consistent and accurate testing services. TSS' Quality Systems and internal Standard Operating Procedures (SOPs) describe every aspect of the business from scheduling, to data collection, to QC and billing. These SOPs are compliant with the national and international standards that govern certification, controlled environment performance testing and calibration.

TSS engineers, quality assurance experts and field personnel ensure that TSS remains on the cutting-edge of industry developments by constantly updating both their extensive knowledge of and access to the latest compliance standards and regulations facing the biotech, pharmaceutical, medical device and research institutions.

TSS clearly understands that our success depends upon consistent client satisfaction and it is our role to assist each client in meeting its testing goals and objectives. We believe that our current client list reflects our own high standards of quality and professionalism.



S P E C - S H E E T S





CERTIFICATIONS & TECHNICAL TRAINING

TSS is certified by the National Environmental Balancing Bureau [NEBB] and is a member of the Institute of Environmental Sciences and Technology [IEST] community. Our experienced field engineers are highly trained professionals that specialize in providing total system service and technical support to each of our clients. Every technician has successfully completed the rigorous written and practical examinations for NSF Accredited biological safety cabinet [BSC] field certifiers and has had extensive training in the practices and test procedures established by NEBB and IEST. Furthermore, TSS provides each technician with a comprehensive training program that includes a multi-disciplined curriculum, supervised field apprenticeship, and recurring follow-up training. All testing is performed in accordance with established TSS Standard Operating Procedures [SOPs], as well as in compliance with the applicable regulations and standards developed by the following:

- ▶ **AABC** - [Associated Air Balancing Council]
- ▶ **ABSA** - [American Biological Safety Association]
- ▶ **ASHRAE** - [American Society of Heating, Refrigerating and Air-Conditioning Engineers]
- ▶ **ASQ** - [American Society for Quality]
- ▶ **CDC-NIH** - [Center of Disease Control - National Institute of Health]
- ▶ **CETA** - [Controlled Environment Testing Association]
- ▶ **FDA** - [U.S. Food and Drug Administration]
- ▶ **FS209E** - [Federal Standard 209E]
- ▶ **IEST** - [Institute of Environmental Sciences and Technology]
- ▶ **ISO** - [International Organization for Standardization]
- ▶ **ISPE** - [International Society of Pharmaceutical Engineers]
- ▶ **NEBB** - [National Environmental Balancing Bureau]
- ▶ **NIST** - [National Institute of Standards and Technology]
- ▶ **NSF** - [National Sanitation Foundation]
- ▶ **OSHA** - [Occupational Safety & Health Administration]
- ▶ **PDA** - [Parental Drug Association]
- ▶ **SEFA** - [Scientific Equipment and Furniture Association]
- ▶ As well as various manufacturers specifications

TSS training programs include the following:

- ▶ Air Balancing
- ▶ Certification of cleanrooms, controlled environments, biological safety cabinets, laminar flow clean benches, and fume hoods
- ▶ Chemical fume hood ASHRAE testing
- ▶ Environmental safety and health
- ▶ Validation & Calibration

TSS eDATA

Our proprietary field data collection software, eData, ensures that clients receive accurate testing and certification services and reports. TSS technicians utilize eData to view and edit service order details, view SOPs and testing standards, input field test data, perform calculations and generate customizable certification reports. The validation of eData enhances our ability to enforce quality control through every aspect of the testing and certification process, from data collection through generation of a final test report.

Quality Control Benefits:

- ▶ Client and unit history readily accessible for technicians
- ▶ To ensure consistency, previous certification criteria is defaulted for current and future certifications
- ▶ eData ensures that calculations and results are accurate by implementing the proper business and mathematical rules
- ▶ 21CFR Part 11 Compliant

Additional Benefits:

- ▶ Validated eData updates are easily and promptly distributed
- ▶ eData can function while disconnected from the TSS network and when back on-line it synchronizes its data with TSS' CRM (Customer Relation Management) Application
- ▶ Technicians can quickly access, download, and print quality checked service reports and validated certification data
- ▶ No manual calculations or handwritten paperwork to prolong the testing and certification and quality control processes

TSS' OCI DATA ACCESS SOLUTION

Technical Safety Services assists customers with their equipment data management needs through custom inventory software called "Service Manager." TSS has developed and designed the software to store and maintain detailed equipment records including; location and user information, preventative maintenance intervals, certification reports and results, and past service calls. In an effort to help clients connect to our Service Manager Database, TSS has developed a software interface program called Online Certification Interface (OCI). OCI allows clients to securely access, view, and print their detailed service and certification records through an assigned username and password login on TSS' Website. TSS' OCI system helps clients effectively manage their equipment certification programs through our quality controlled database management system.

Features:

- ▶ Users can search and sort records by: Principle investigator, contact, building, room, unit manufacturer and type
- ▶ Results are displayed which can be further sorted by: Principle investigator, contact, building, room, manufacturer, model, hood type, serial #, and test dates
- ▶ Users can view equipment and certification detail pages by clicking on a column header. Detail pages contain customer information, equipment information, and certification details
- ▶ Certification information can be sorted by report date, hood type, hood class, report ID, and comments
- ▶ eData certification reports and details of the certification process can be viewed by clicking on the certification report ID in the certification detail page

Benefits:

- ▶ Maintain accurate and quality controlled certification records
- ▶ Minimize production downtime and review process
- ▶ Schedule and track preventative maintenance intervals
- ▶ Cost effective solution to reduce administrative costs



e D A T A & O C I

CERTIFICATIONS & TRAINING





QUALITY SERVICES

Technical Safety Services, Inc. has built its foundation by providing superior testing and certification services to the most demanding Fortune100 biotechnology, pharmaceutical and medical device companies in the nation. Our ability to listen to clients' needs, in addition to our flexibility, innovation, and precision, are the qualities that distinguish TSS from all other service companies.

We provide services on either an as-needed or service agreement basis. Our certification, labor, or full maintenance service agreements are designed to meet the specific needs of our clients and are a cost-effective solution to unforeseen equipment maintenance requirements. All clients with equipment covered by a TSS service agreement receive a 24 to 48 hour response time on service calls. Additionally, TSS is authorized to perform warranty repairs for all major equipment manufacturers and stocks parts in our warehouse, such as HEPA filters, motors, switches, and fluorescent/ UV bulbs. This minimizes equipment down time.

Our testing and certification programs verify and document that your equipment is performing to appropriate international standards and manufacturer specifications. All testing is concluded with either a test report or comprehensive formal report detailing test procedures, results and conclusions.

TSS clearly understands that our success depends upon consistent client satisfaction and it is our role to assist each client in meeting its testing goals and objectives. We believe that our current client list reflects our own high standards of quality and professionalism.

KEY COMPETITIVE ADVANTAGES

- ▷ Over 35 years of testing and certification experience
- ▷ Nationwide service providers
- ▷ Largest staff of NSF certified technicians in the nation
- ▷ Responsive service minimizes costly downtime
- ▷ Knowledgeable support team of engineers and quality assurance experts
- ▷ Customized documentation and report writing services



Cleanroom Services:

- ▷ All testing performed in accordance with IEST guidelines and certified to ISO14644 and Federal Standard 209E
- ▷ All cleanrooms are certified to appropriate specifications and national standards by highly trained technicians



Biological Safety Cabinet Services:

- ▷ All units are certified to appropriate manufacturer specifications and national standards by highly trained NSF accredited technicians



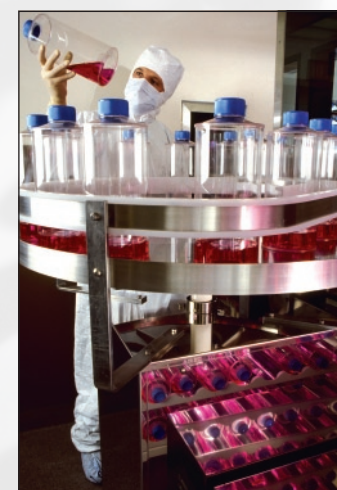
Laminar Flow Unit Services:

- ▷ All units are certified to appropriate manufacturer specifications and national standards by highly trained technicians



Fume Hood Services:

- ▷ All units are certified to appropriate manufacturer specifications and national standards by highly trained technicians
- ▷ ASHRAE 110
- ▷ OSHA, SEFA

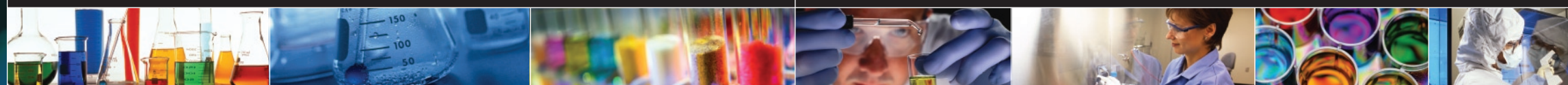


Additional services:

- ▷ Air balancing/TAB services
- ▷ Decontamination services
- ▷ Environmental health & safety consulting
- ▷ Instrument calibration services
- ▷ Microbiological testing
- ▷ Radiation safety and commissioning services
- ▷ Validation service



PROFESSIONAL SERVICES



Testing and Certification of: Biological Safety Cabinets, Laminar Flow Clean Bench Units, and Fume Hoods



> TSS has over 35 years of experience in the testing and certification industry

TSS offers comprehensive testing, certification and maintenance of biological safety cabinets, laminar flow clean bench units, and fume hoods. Our skilled technicians are authorized to perform warranty repairs for all major equipment manufacturers. All testing is performed in accordance with established TSS standard operation procedures [SOPs], which are updated to remain compliant with federal and international safety guidelines, current good manufacturing practices [cGMPs] and quality assurance systems.

Biological Safety Cabinets [BSCs] are certified to meet NSF-49, OSHA, NIH/CDC, and/or the manufacturer's specifications

Primary tests performed include:

- ▷ **Inflow velocity profiling** - assures that a safe inflow is maintained to protect the operator from the product, as well as the product from outside contamination
- ▷ **Downflow velocity profiling** - documents that the air in the work area is unidirectional and functioning as designed, preventing cross contamination
- ▷ **HEPA filter integrity testing** - tests filters and system for leakage/defects
- ▷ **Fluorescent and UV light testing** - establishes that the fluorescent lights are working at a level that will not contribute to worker fatigue and that the Ultra-Violet light is operating adequately
- ▷ **Airflow visualization testing** - Qualitatively verifies airflow direction using a source of visible fog
- ▷ **Site installation testing and alarm calibration** - assesses appropriate procedures for the installation of units for NSF and OSHA compliance

Optional tests include:

- ▷ **Electrical safety testing** - assures that the unit is electrically grounded and safe for worker use
- ▷ **Pressure decay/cabinet integrity testing** - establishes that there is no contamination escaping through the welds and joints
- ▷ **Vibration testing** - assures that product is not subject to damage due to vibration
- ▷ **Sound testing** - verifies that using the hood will not contribute to worker fatigue

Consulting services:

There are many different classes and types of BSCs. Based upon your needs and the nature of the agents that you are working with, the experts at TSS will be glad to aid you in the selection of a unit that suits your purposes.

Unidirectional (Laminar) Flow Clean Bench Units [LFUs] are tested in accordance with IEST.

Primary tests performed include:

- ▷ **HEPA filter integrity testing** - demonstrates that no contamination will enter the work area [through the supply filter]
- ▷ **Airflow velocity profile** - documents that the air in the work area is unidirectional and functioning as designed, preventing cross contamination
- ▷ **Fluorescent light testing** - establishes that the fluorescent lights are working at a level that will not contribute to worker fatigue

Optional tests include:

- ▷ **Non-Viable Particle Counting** - performed in accordance with ISO 14644 reports the amount of particulate, if any, there is in the hood.
- ▷ **Vibration testing** - assures that product is not subject to damage due to vibration
- ▷ **Sound testing** - verifies that using the hood will not contribute to worker fatigue

Fume Hoods [FHs] are tested in accordance with OSHA, AIHA/ ANSI, SEFA and ASHRAE.

Primary tests performed include:

- ▷ **Inflow velocity profiling** - assures that a safe inflow is maintained to protect the operator from the product.
- ▷ **Airflow smoke testing** - provides a qualitative demonstration of capture at the face of the unit, in order to protect the worker from possible exposure

Optional tests include:

- ▷ **Calibration of airflow monitors** - Testing of airflow monitors
- ▷ **ANSI/ ASHRAE 110 testing** - provides quantitative data used to evaluate the containment performance of fume hoods. Testing includes:
 - ▽ **Primary testing noted above**
 - ▽ **Local and large volume smoke visualization testing** - determines the optimal fume hood sash positions and acceptable capture performance for the unit, from both inside and outside of the unit
 - ▽ **Cross-draft testing** - measures the amount of horizontal and vertical cross-current activity at the face of the unit
 - ▽ **VAV (variable air-volume) testing** - determines the optimal fume hood sash positions and acceptable stabilization time for the unit.
 - ▽ **Tracer gas containment testing** - verifies containments and reentrainment of the unit by simulating a controlled chemical release inside the fume hood, and monitoring outside the hood with an IR spectrophotometer



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Air Balancing and Commissioning (ABC) Services



> TSS offers responsive service to minimize downtime

Technical Safety Services provides air balancing of controlled environments for the improvement of equipment and systems performance, commissioning, mitigating IAQ problems, extending equipment life, and conserving energy without sacrificing occupancy comfort, room cleanliness, or process function. This is especially important in the pharmaceutical and biotech industries where controlled environments such as cleanrooms and laboratories (with chemical fumehoods or biological safety cabinets) have critical air balance specifications.

TSS believes that a total system balance is an imperative component in assuring that the entire environment produces its design result. The proper use of instruments, evaluation of readings, and adjusting systems requires highly trained professionals with years of experience in both air balancing and commissioning and certification. Our technicians are thoroughly trained in accordance with NEBB [National Environmental Balancing Bureau], Procedural Standards for Testing, Adjusting and Balancing of Environmental Systems, and AABC [Associated Air Balancing Council]. Our commitment to customer satisfaction, technical experience, and professionalism enables us to competently and efficiently meet customers' needs while providing a non-biased evaluation of operational performance levels.

HVAC testing, adjusting, and balancing includes:

- ▷ *Air and water flow measurement*
- ▷ *Airflow parallelism adjustment*
- ▷ *Cleanrooms*
- ▷ *Duct pressure leak testing*
- ▷ *Economizer minimum and maximum outside air quantity measurement*
- ▷ *HVAC system sound testing (full octave band or scale)*
- ▷ *Laboratories, including BSL-3*
- ▷ *Process exhaust system air balance & balance maintenance plans*
- ▷ *Room pressures*
- ▷ *Rotating equipment vibration testing and balancing*



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In addition to our other services, TSS calibrates a wide range of laboratory equipment. Our one-source testing, certification, and calibration service saves clients time and money by eliminating the need for multiple vendors. In fact, most calibrations can be performed on site, which lessens turn-around time. Our large staff of highly trained technicians, enables us to provide customers with flexible service schedules to fit their specific needs, and competitive pricing to meet their strict budgets.

For calibration that cannot be done on-site, our in-house calibration lab maintains a high degree of precision by strictly adhering to national and manufacturer calibration requirements. TSS calibration procedures conform to ANSI Z-540, ISO 17025, and TSS' own quality assurance systems. Equipment calibrations are performed in accordance with manufacturers' and/ or TSS' SOPs, are traceable to National Institute of Standards and Technology [NIST], and are GXP compliant for review and approval by our quality control experts. Customer specifications can also be incorporated into the calibration procedures for internal quality control. Raw data is documented with either an "as-found"/ "as-left" or "pass"/ "fail" status, which is available at the time of the calibration. By bringing our standards to customers, calibration efficiency and accuracy can be assured.

TSS offers field-calibration of the following laboratory equipment:

- ▷ Autoclaves (temperature and pressure)
- ▷ Centrifuges (rpm and temperature)
- ▷ Chart recorders
- ▷ Conductivity/ resistivity meters
- ▷ Cryo-freezers
- ▷ Freezers
- ▷ Incubators (temperature and CO2)
- ▷ Mixers, pumps (rpm)
- ▷ Ovens
- ▷ pH meters
- ▷ Pipettes
- ▷ Refrigerators
- ▷ Scales and balances
- ▷ Stability chambers (temperature and relative humidity)
- ▷ Temperature baths (liquid and dry-block)
- ▷ Thermometers (analog dial, digital, liquid-in-glass)

TSS also offers field-calibration of the following process equipment and systems:

- ▷ Building automation systems [BAS]/ building monitoring systems [BMS] (temperature, relative humidity, room pressure)
- ▷ Compressed gas (pressure indicators/ gauges)
- ▷ Process vessels/ bioreactors (temperature, pressure, rpm mixers, pH)
- ▷ Water systems (pressure, temperature, conductivity/ resistivity)

The list of equipment above is only a sample of our calibration scope. If you have equipment that is not listed above, or have questions, please give us a call to find out more about our calibration programs.

> TSS offers a one source testing, certification and calibration solution



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Testing and Certification of Cleanrooms and Controlled Environments



> TSS offers nation-wide comprehensive testing and certification programs

Cleanrooms, by definition, are designed to control particulate and environmental conditions. Cleanrooms can be positive or negative pressure environments that sweep a specified area with HEPA filtered air. Critical biopharmaceutical, pharmaceutical, and microbiological areas require adherence to exacting performance requirements. TSS' certification programs verify that facilities perform to appropriate international standards and client specifications. All testing is concluded with a fully documented formal report detailing test procedures, test results, and offers comprehensive conclusions of the testing performed. All cleanroom testing is performed in accordance and compliant with Current Good Manufacturing Practices [cGMP], Institute of Environmental Sciences Technologies [IEST], and International Organization for Standardization [ISO].

Our primary cleanroom test battery includes:

- ▶ Airflow volume / velocity readings - assures that both unidirectional and non-unidirectional flow areas are properly balanced and unidirectional zones are maintaining proper air patterns
- ▶ Room air exchange rates - state if the area is meeting its design airflow
- ▶ HEPA filter integrity testing - Tests HEPA filters and system for leaks
- ▶ Non-viable particle counting - reports the amount of airborne particulate, of a specified size in the clean zone
- ▶ Temperature / relative humidity testing - examines whether the air HVAC controls are functioning properly and uniformly
- ▶ Pressure cascade monitoring - verifies that room differential pressures are operating according to design

Optional tests include:

- ▶ Air balancing - adjusts airflow in the air handling systems to achieve design airflow, room air exchange rates and pressure cascade
- ▶ Airflow visualization testing - qualitatively verifies airflow direction using a source of visible fog
- ▶ Viable environmental monitoring [EM] - samples both the air and surface for microbe enumeration and identification
- ▶ Compressed gas testing, [e.g. CDA] - assures that the compressed gas sources meet the requirements of the controlled environment for contamination and/or microbes
- ▶ Lighting, vibration and sound tests - assures worker comfort
- ▶ All other special tests from the ISO/IEST guidelines



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Technical Safety Services Client List



> This is just a sample of
TSS' extensive client list

Pharmaceutical

Alza
Amgen, Inc.
Baxter
Bayer
Becton Dickinson
Biogen/IDEC
Boehringer Mannheim
Bristol-Meyers Squibb
Chiron
Dey Labs
Elan Pharmaceuticals
FDA
Genentech
ICN Pharmaceuticals
Johnson & Johnson Medical
Mallinckrodt
Merck Research Laboratories
Pfizer
Roche
Sandoz
Sicor
Watson Pharmaceuticals

Biotechnology

Abgenix
Allergan
Allermed
Alliance Medical Products, Inc.
Amcyte Diabetes
Amgen, Inc.
Applied Biosystems
Arena Pharmaceuticals
AVI Biopharma
Baxter Biosciences
Bayer
Becton Dickinson
Behring Diagnostics
Berlex Biosciences
Biogen/IDEC
BioMarin
Bio-Rad Laboratories
Biosite
Boehringer-Mannheim
Cancervax
Canji
Cell Genesys
Cell Therapeutics
Celltech, Inc.
Cepheid
Chiron
Corixa
Cygnus
Dade Behring
Diagnostic Products
DPR Construction, Inc.
Favril, Inc.
FDA
Genencor
Genentech
Gen-Probe
Geron
Gilead
Grifols Biologicals, Inc.
Hollister Stier
ICOS
ISEC
ISIS Pharmaceuticals

La Jolla Pharmaceutical
Ligand
Medarex
Medimmune, Inc.
Merck/Rosetta
Nektar Therapeutics
Novo-Nordisk
OSI Pharmaceuticals, Inc.
Pall Trinity Micro
Panlabs
Pfizer
Protein Design Labs
Roche Biosciences
Roche Diagnostics
Roche Molecular Systems
Scios
Sicor
SkyePharma
Stem Cells Incorporated
Targeted Genetics
Xoma
Zymogenetics

Hospitals/Biomedical

Alameda County Public Health
Alta Bates Hospital
American Red Cross
California Department of Health Services
Cedars Sinai Medical Center
Children's Hospital Medical Center
Colorado Department of Health
Contra Costa County Public Health
Doctors Medical Center
El Camino Hospital
Fresenius USA, Inc.
Fresno County Public Health
GE Clinical Services, Inc.
Good Samaritan Hospital
Highland Hospital
Irwin Memorial Blood Bank
Kaiser-Permanente Hospitals
Madigan Army Medical Center
Marin County Health Department
Mendocino County Health Department
Modesto Memorial Hospital
Peninsula Hospital
Pomerado Hospital
Queen of the Valley Hospital
Sacramento County Public Health
San Francisco Department of Public Health
San Francisco General Hospital
Sequoia Hospital
Sharp Memorial Hospital
Solano County Public Health
Stanislaus County Public Health
Summit Medical Center
Sutter Health Hospitals
VA Medical Center
Washington State Public Health Laboratories

Research

Albany Molecular Research
Boston College
Bristol-Meyers Squibb
Buck Center
Burnham Institute
California Pacific Medical Research Institute
California State University

American Red Cross
California Department of Health Services
Cedars Sinai Medical Center
Children's Hospital Medical Center
Colorado Department of Health
Contra Costa County Public Health
Doctors Medical Center
El Camino Hospital
Fresenius USA, Inc.
Fresno County Public Health
GE Clinical Services, Inc.
Good Samaritan Hospital
Highland Hospital
Irwin Memorial Blood Bank
Kaiser-Permanente Hospitals
Madigan Army Medical Center
Marin County Health Department
Mendocino County Health Department
Modesto Memorial Hospital
Peninsula Hospital
Pomerado Hospital
Queen of the Valley Hospital
Sacramento County Public Health
San Francisco Department of Public Health
San Francisco General Hospital
Sequoia Hospital
Sharp Memorial Hospital
Solano County Public Health
Stanislaus County Public Health
Summit Medical Center
Sutter Health Hospitals
VA Medical Center
Washington State Public Health Laboratories

Medical Devices/Manufacturers

Aerogen
Affymetrix
Alliance Medical Products
Applied Biosystems
Baker Company
Beckman Coulter
Boston Scientific
Cardiac Pathways
DePuy Spine
Forma Scientific
Guidant Corporation
Johnson & Johnson Medical
Medtronic Vascular
Nuaire
Scientific Device Manufacturing
Somnus
Sonus
Thermo Electron Corporation
Thoratec Laboratories

Electronics

Applied Materials
Fujitsu
Hewlett-Packard
Hitachi
IBM
Microsemi
NEC Electronics
Raychem
SRI
Varian
Xerox



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Environmental Health & Safety (EH&S) Services



> TSS offers a knowledge-able support team of engineers and quality assurance experts

TSS provides expertise acquired from over 35 years of managing EH&S affairs in leading academic research centers, biotechnology businesses, and life-science research environments. Our credibility and understanding of these services are a direct result of solid relationships with accredited regulators and subsequent business partnerships within the industry. Our experience and partnerships with our client base have enriched our understanding of the role of EH&S operating systems in GMP controlled environments. We are pleased to offer a full range of EH&S services to complement our existing client services, such as assistance with your company's OSHA, Industrial Hygiene, Radiation Safety and other regulatory compliance requirements. Whether it's aid with written program development, conducting hazard assessments, or providing customized occupational safety training, TSS offers a wide variety of services to meet each client's needs.

EH&S program areas include:

- ▷ Biological safety
- ▷ Bloodborne pathogens
- ▷ Chemical hygiene / laboratory safety
- ▷ Hazard communication
- ▷ Injury & illness prevention programs
- ▷ Lock-out / tag-out
- ▷ Radiation safety
- ▷ Respiratory protection

Environmental compliance documentation:

The biotechnology industry faces increasing environmental regulation from multiple federal, state, and local agencies. TSS can provide environmental permitting expertise to assist you in securing validation reports, monitoring documents, and permits that your business requires in order to operate. Permitting assistance is available in most environmental regulatory areas which include:

- ▷ Hazardous (chemical) wastes programs.
- ▷ Hazardous materials business plans.
- ▷ Local air (AQMD) permits.
- ▷ Medical/ biohazardous wastes.
- ▷ Stormwater management.
- ▷ Wastewater (POTW) discharge permits.

Facility closure, decontamination, and relocation:

Is your company considering closing or moving a facility? As you know, there are many EH&S considerations in the relocation of equipment, regulated materials, and personnel from one laboratory site to another. Additionally, agency and liability considerations often require documentation of all decontamination activities when decommissioning a facility. At TSS, we can provide a team of experienced personnel to assist with decommissioning planning to decontaminate vacated spaces and draft regulatory driven closure plans, reports, and detailed documentation as required by local and state agencies.



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Environmental Monitoring Services

TSS offers environmental monitoring services to assist our clients with their critical cleanroom and controlled environment quality assurance programs. We support our client's environmental monitoring needs by offering flexible, comprehensive monitoring programs that sample room pressurization, temperature, relative humidity, and non-viable particulates, as well as assess microbial sources, potential contamination and control problems within their facilities.

TSS employs a variety of industry-standard collection methods to suit clients sampling needs. We offer methods which conform to ISO, USP and ASM specifications. Testing is performed using calibrated NIST traceable sampling equipment and validated microbiological media. All testing and lab work performed by TSS undergoes TSS' Quality scrutiny to assure accurate, affordable and timely results. For quality assurance and audit purposes, results are formatted and detailed in a formal report.

Environmental monitoring services offered:

- ▷ Establishment of action and alert limits with analysis of microbial & particulate trends
- ▷ Fungal growth and identification
- ▷ Gram stain
- ▷ Microbial growth and monitoring programs
- ▷ Microorganism identification
- ▷ Non-viable particulates
- ▷ Passive and active viable air sampling
- ▷ Room pressurization, temperature, and relative humidity
- ▷ Viable air and surface sampling

Compressed Gas [e.g., CDA] Services

Technical Safety Services provides testing and certification of the compressed gas termini in cleanrooms and controlled environments to assure that air meets USP, ISO and FDA requirements. All testing is performed in accordance with TSS SOPs, ISO 8573, USP and FDA Standards.

CDA testing includes:

- ▷ Airborne viable testing
- ▷ Non-viable particulate counting
- ▷ Dew point measurements
- ▷ Total hydrocarbon testing
- ▷ TSS also provides testing for other compressed gases

> TSS competently and efficiently exceeds customer's needs



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