

zNose[®] Product Line

APPLICATIONS

产品线应用

zNose[®] detects contamination in a wide variety of industries:

Homeland Security, Food, Medical, Public Health / Environment, Energy, Agriculture, Beauty, Zoology

zNose[®]检测国土安全，食品，药品，公共健康/环境，能源，农业，美容，动物各种工业污染

The zNose[®] product line includes portable, transportable and benchtop, low cost solid state detectors that use gas chromatography (GC) and Surface Acoustic Wave (SAW) to give complete profile of all kinds of odors and chemicals.

此系列产品包括便携式，可移动式，桌面式，低成本固态探测器，其气相色谱和表面声波仪给出完整的各种气味和化学物的分析。

It can achieve part per billion level in near real time, typically 10 seconds, by combining SAW detectors with high-speed temperature programmed chromatographic columns, specificity over a wide range of vapors. Stable sensors are utilized that neither drift nor require constant calibration.

快速温度设定色柱与表面声波探测器，各种气体特异性使得系统可实时测量，可达 ppb 水平，典型 10 秒内

Its gas detection VOC capabilities can be applied to chemical analysis of air, water, and soil for odor management and remediation projects. Its Vapor Analysis System provides a quantifiable response to multiple types of explosives simultaneously.

其探测易挥发有机物能力可以用来检测分析空气、水、土壤用于气味管理及整治项目；其气味分析系统对多种爆炸物同时进行定量响应。

The zNose[®] instruments can easily operate under field conditions by obtaining extracts of 2,4,6-trinitrotoluene (TNT), hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX), 2,4-dinitrotoluene (2,4-DNT) and 2,6-dinitrotoluene (2,6-DNT) from soil or water in minutes.

zNose[®] 仪器很容易在现场条件下几分钟内从土壤或水中提取 TNT，RDX，2,4DNT，2,6-DNT

Speed and Accuracy of the zNose[®] Product Line:

zNose[®] 产品线速度和精度

zNose[®] is extremely fast and accurate. Gas chromatographs are able to produce a coherent 10 second spectrum of vapor pressure of chemicals present in any odor or fragrance.

此系统反应极其迅速精准。气相色谱能够对气味中化学物产生连续的 10 秒蒸汽压谱

The GC/SAW can speciate and quantify vapor concentrations of multiple types of explosive compounds with a 10 second analysis period.

表面声波仪 10 秒内识别并定量分析多种不同爆炸物蒸汽浓度

For accurate soils measurements a solvent extraction of 2,4,6-trinitrotoluene (TNT), hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX), 2,4-dinitrotoluene (2,4-DNT) is used with direct injection

zNose® Product Line

APPLICATIONS

产品线应用

HOMELAND SECURITY 国土安全局



Explosives contamination in soil and water:

土壤与水中爆炸物污染:

Our planet has seen catastrophic effects of 2 world wars and there are hundreds of explosives-contaminated sites located globally, containing lead, copper, arsenic, and nitro aromatic metabolites. Explosive contaminants and their derivatives have polluted our environment to levels that threaten the health of all living beings and the entire ecosystem.

我们星球历经两次世界大战灾难，全球成百上千被爆炸物污染地方，包括铅，铜，砷，硝基芳香代谢物。爆炸污染物和其代谢物已经把我们环境污染到了威胁所有生物和整个生态系统。

Unexploded ordinance(UXO) from military operations worldwide, especially nuclear tests also pose a serious environmental threat due to release of toxic substances from corroding ordinance. In addition to the risks associated, these also possess a potential for accidental detonation.

世界范围内的未爆炸物，尤其核试验有毒物质释放对环境造成严重的危险，除了相关危险后，这些未爆炸也存在潜在意外爆炸危险

Ingestion, inhalation, or dermal absorption of contaminated soil and water can lead to diseases like soil-transmitted helminth infections, cancer, hookworm disease, pododermatitis, congenital anomalies, impotency and other health risks.

The zNose rapidly screens for explosives contamination in soil and water at mg/kg and mg/l concentration level with stable sensors that neither drift nor require constant calibration.

从受污染土壤和水中摄入，吸入或经皮肤吸收有毒物可导致疾病如土壤传播的寄生虫感染，癌症，钩虫，足病，先天畸形等健康风险。

zNose 使用稳定的传感器在浓度 mg/kg 和 mg/l 水平内快速筛查土壤和水中的爆炸物污染，无漂移无需经常标定。



Port and Cargo Security 港口和货物安检

Incoming shipments are analyzed for potential threats using EST Inc.'s unique technology, zNose®. Explosives, narcotics, and other contraband are detected and identified upon homeland entry. Additional zNose® applications include:

使用 EST Inc 公司独特的 ZNose 技术对进港船只检查潜在危险，根据入关规定，需要检查的包括爆炸物，毒品和其它违禁物。其它 ZNose 用途包括：

- Searching cargo containers and vehicles for contraband
搜查集装箱和车辆查走私品
- Detecting hidden explosives and chemical weapons
检测隐藏爆炸物和化学武器
- Detecting hidden bootleg liquor in cargo containers
检查集装箱藏匿的走私酒
- Recognizing the presence of illegal chemicals
识别非法化学物。

zNose® Product Line

APPLICATIONS

产品线应用



Airport Security 机场安检

zNose® monitors the ambient air chemistry within aircraft, recognizes odors from known threats, and detects suspicious odors, which are not part of the airplane's normal vapor signature. Also designed to:

Screen departing passengers and luggage

Complement existing screening technologies

Screen and monitor facilities for chemical odors

Monitor for improvised explosives and contraband

zNose® 监测飞行器内环境空气中化学物，识别已知危险物气味，探测不属于飞正常气体可疑气味，也可以用来检查旅客和行李；辅助现有筛查技术；监测设施内化学物气味；监测爆炸物和违禁品



Building Security 建筑安检

zNose® monitors the air chemistry within buildings and compares it with the building's normal background signature. It recognizes the threatening odors and helps to keep the security at buildings intact. It also provides aid to:

此系统监测建筑物空气中化学物并与其正常本底比对，能识别危险气味，帮助保证建筑物安全，同时也能协助：

- Screen and monitor public buildings and transportation facilities
检查监测公共建筑与交通设施
- Analyze suspicious odors and hazardous industrial materials
分析可疑气味和有害工业材料
- Provide sensitive and rapid warning for fixed sites such as, government buildings etc.
为固定场所如政府建筑提供敏感的快速警告
- Keep a check on ambient odor of subway stations, financial centers and high-value industries
时刻检查地铁站，金融中心和高价值工业场所环境中气味

ENERGY 能源



Fuels 燃料

zNose® uses gas chromatography and SAW detector and is capable of testing any type of fuel and detects the contamination in a minute with speed, precision and accuracy. This unique technology also:

zNose® 使用气相色谱和声表面探测器探测能够探测任何燃料，快速精准探测到表面污染，独特技术包括

zNose[®] Product Line

APPLICATIONS

产品线应用

- Gives complete chemical composition of any type of fuel's chemical vapor
给出任何完整燃料化学气体化学成分
- Quickly detects mixing of octanes and blended fuels
快速探查辛烷和混合燃料
- Detects any type of fuel contamination
探测任何燃料污染
- Produces olfactory images to give better understanding
嗅觉图像更容易理解

BEAUTY



Fragrance 芳香

zNose[®] tests any vaporized essence of fragrant compounds such as perfumes, lotions, soaps etc. within real time. It gives complete chemical composition of such compounds, helping in maintaining the required concentration levels. It also helps in:

zNose[®] 实时检测任何发挥芳香气味化合物如香水，护肤液，香皂等，并给出完整化学组成，帮助维护所需浓度，同时也帮助：

- Comparing the chemical signature of perfumes
与香水化学特征比较
- Effectively classifying perfumes by fleur essence notes or olfactory images
通过气味精华特征或图形对香水进行分类
- Helps in maintaining required concentration levels of fleur essence bases
帮助维护气味精华所需浓度
- Giving complete chemical composition of fragrant oils and bases
给出完整芳香精油化学组成
- Detecting odor signatures of antiseptic soaps and lotion
探测杀菌皂和护肤液气味特征
- Quantitative quality control testing of soaps and lotions
定量分析肥皂和护肤液质控

ZOOLOGY



Animals 动物

zNose[®] gives complete chemical profile of the animal odors with accuracy and speed. 精确快速给出完整动物气味化学调剖

- Testing odors to determine species 测试气味确定物种
- Identifying the sex of different species by testing odors 识别不同物种性别
- Giving reproductive status of animals 确定动物生殖状态

zNose® Product Line

APPLICATIONS

产品线应用

PUBLIC HEALTH / ENVIRONMENT 公共卫生与环境



Animals 动物

zNose® gives complete chemical profile of the animal odors with accuracy and speed.

此系统精确快速给出动物气味化学信息

- Detects harmful odors of different species that can spread diseases like swine flu, bird flu, etc.
探测不同物种可传播疾病的有害气味如猪流感，禽流感等
- Determining the efficacy of reducing animal odors
确认降低动物气味功效
- Detects harmful odors of different species such from feed lots, manure lagoons, etc.
探测饲养场，粪池不同物种有害气味



Air Quality 空气质量

zNose® sniffs the good and bad aroma of the atmosphere with its parts-per-trillion sensitivity using ultra-fast gas chromatography and SAW detector. It also helps in:

zNose® 超快气相色谱和表面声波探测 PPT 级好坏芳香气味，也可帮助：

- Identifies the unhygienic odor of surroundings 识别周围不清洁气味
- Sniffs the presence of contagious viruses in air 巡测空气中传染病毒存在



Plastics 塑料

As all chemical substances have divergent odors, plastic also has its odor which could be detrimental. The advanced technology of the zNose® helps you by:

所有化学物质都散发气味，塑料也有气味，还可能有毒，此先进 zNose® 技术可帮助：

- Quantifying the concentration of volatile organic compounds in plastic odors
定量测量塑料气味中可挥发有机化合物浓度
- Analyzing plastic odors in just a minute after the sample is injected in it
注样后一分钟分析塑料气味
- Measuring the amount of impurities in plastic
测量塑料杂质
- Identifying the recycled plastic by its odor
通过气味识别回收塑料

zNose® Product Line

APPLICATIONS

产品线应用

AGRICULTURE 农业



Plants 植物

zNose® with its advanced technology renders help to detect harmful emissions from the plants and keeps an analyzing eye on the quality of crops. It also helps by:

zNose® 先进科技帮助探测植物中有害气味

- Detecting levels of volatile emissions from plants 探测植物挥发气味水平
- Helps in performing greenhouse experiments 帮助进行温室实验
- Analyzing herbs; medicinal plants used to make herbal medicines 分析做中药的药材和药用植物
- Measuring the quality of your crops 测量庄稼质量



Bacteria and Molds 细菌和霉菌

zNose® using its utilitarian features, quantitatively judge the quality of crops by identifying the growth of bacteria or mold in them. This electronic sniffer proficiently:

zNose® 定量分析通过细菌或霉菌生长判断庄稼质量，电子嗅探器熟练地探测

- Detects mold, bacteria or fungus growth
霉菌，细菌，真菌生长
- Detects microbial volatile organic compounds
微生物可挥发有机化合物
- Recognizes bacterial type using unique Vapor Print™ image
识别细菌种类
- Measures the presence of fungus or mold in crops
测量庄稼中出现的真菌或霉菌

MEDICAL 医疗

Amino Acid Structure



Diagnostics 诊断

Using the science of gas chromatography, zNose® rapidly performs analytical measurements, cost-effectively on biological samples in real time. It helps in:

使用气相色谱，zNose 快速经济实时分析测量生物样品：

- Performing analytical measurements of blood, urine, stool, etc. 分析测量血液，尿液，大便样
- Segregate and quantifies the organic chemistry of biological odors
分离并定性分析生物气味有机化学成分
- Classifies the amino acids by molecular weights
通过分子量对氨基酸分类
- Measure the levels of hemoglobin
测量血红蛋白水平

zNose® Product Line

APPLICATIONS

产品线应用

FOOD 食物



Beverages 饮料

zNose® performs effective beverage quality control by quantifying the chemicals present in beverages accurately unlike the ambiguous human odor panel measurements. It helps us with the detection of:

通过精确定量分析饮料中的化学物有效进行质控，相比模糊人类气味测量，此系统可帮助探测：

- Undesirable materials that set back the flavor 影响口味的物质
- Toxin-producing bacteria 产生毒素的细菌
- Adulterant sugars 假糖
- Presence of harmful components 有害成分出现



Food Aroma 食物气味

zNose® using its advanced technology effectively scrutinizes food aroma and detects any kind of unwanted components that could set back flavor or be perilous to health. It also provides solutions to check:

ZNose 系统用先进技术有效分析食物气味并检测任何影响口味的或对健康有影响的成分，同时也检测：

- Packed food quality 包装食品质量
- Fruit fleur essence 水果植物精华
- Ripeness 成熟度
- Quality of crops 庄稼质量