



**Protect those that
matter most**

Health & Safety Division

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MISSION STATEMENT

Innovation and dedication have made ESI Equipment, Inc., the parent company of ESI Health & Safety, Junkyard Dog Industries™ (JYD Industries), and the home of ESI Equipment Apparatus Division, a preferred and proven industry source. With multiple divisions, enthusiastic personal, and vast product lines, ESI Equipment is proud to be your rescue resource.

Developing our Health & Safety division to protect our number one resource, the first responder from all the harmful contaminants they are exposed to regularly. We want to provide products that help to reduce the harmful contaminants on the individual, gear, surfaces, and in the air. This we believe will help our first responders avoid medical issues from regular exposure to harmful VOC's, viruses, bacteria, and even mold.

CONTENTS

01 **Ember Sudz**

All-natural, hand-crafted, activated charcoal-based soap.

02 **Safety Sudz**

Gear Liquid Detergent formulated to clean the most harmful hydrocarbons and soils.

03 **Sudz It**

Dual Use Wetting System or: Wet Mitigation and Overhaul

04 **Extractors & Air Drying Cabinets**

Preprogrammed NFPA 1851 Compliance

05 **The Sentinel**

Air purification

06 **The Sentinel IQ**

Air monitoring and purification

07 **Electric Vehicle (EV) Utility Nozzle**

The patent-pending SUDZ-IT EV Nozzle is the first of its kind, designed to be slid under burning objects, to help cool them down and extinguish stubborn fires.

08 **CleanSpace Ultra Power System**

A Revolution in Respiratory Protection

ESI Equipment, Inc. has gathered the best products to protect your firefighters from harmful contaminants

WE ARE DEDICATED TO YOUR SAFETY



All natural, hand crafted, activated charcoal-based soap.



**THE INDUSTRY
STANDARD
FOR CLEAN**

Most over the counter soaps have moisturizers which are designed to pull moisture into the skin. This works against the common goal to remove the carcinogens. Ember Suds is charged with charcoal and fine pumice to remove soot and is specially designed for post fire detox.

**SPECIFICALLY FORMULATED TO
EXFOLIATE AND ABSORB HARMFUL PARTICULATES.**



ACTIVATED CHARCOL

Activated charcoal, is a form of carbon with small, low-volume pores that increase the surface area available for adsorption or chemical reactions. Because this gigantic surface area soaks up substances, it is commonly used in poisoning cases for soaking up toxins in the body.



PUMICE

Pumice is a volcanic rock. Ground into small particles, it's perfect for scrubs. Ember Suds soaps contain pumice sand and fine-grained Dead Sea salt for a powerful exfoliation that helps remove and absorb particulates.



SOAP

Formed from fatty acids and an alkali, soap cleanses because molecules of fat are attracted to the fatty part of the anions of soap in a water solution and are pulled off the dirty surface into the water.

**SOLD IN PACKS OF 12, 24, 48
AND 1-GALLON BUCKETS OF 80**

02 Safety Suds

Formulated to clean the most harmful hydrocarbons and soils. Gentle on your turnout gear and station wear.

50 YEARS OF PROVEN RELIABILITY

Safety Suds Bunker Gear Liquid Detergent was originally formulated in 1969 by the first bunker gear cleaning and care facility in Texas to clean oil refinery fire brigade bunker gear.

This was to ensure there were no hydrocarbons, toxins, or other flammable material left on the gear and has been used to clean hundreds of thousands of sets of the dirtiest bunker gear since then. Although designed to clean the toughest job, Safety Suds is still gentle enough to clean your station wear.

NFPA 1851 Compliant

Safety Suds is NFPA 1851 Compliant and is safe for all gear components. There are no residual odors and Safety Suds Bunker Gear Liquid Detergent safely cleans all outer shell fabrics, thermal liners, moisture barriers, reflective trims, arashild, suede leather, hardware, knee pads and Talors Tins.

SAFE FOR ALL GEAR COMPONENTS

Used by the Pro's to pass the 2020 edition NFPA 1951 Verification for cleaning for independent Service Providers (ISPs) so you have the confidence Safety Suds performs as advertised.

APPLICATION

Safety Suds Bunker Gear Liquid Detergent cleans safely all your gear components:

Outer Shell	Thermal liners
Moisture barriers	Reflective trims
Arashield	Suede
Leather	Hardware
Knee pads	

ADVANCED CLEANING

FPA 1851 mandates using a Laundry Textiles Sanitizer to pass the 2020 edition NFPA 1851 Verification for cleaning for Independent Service Providers (ISPs). BacStop™ is a concentrated, ready-to-use liquid fabric sanitizer. BacStop™ leaves behind a finish that is both self-sanitizing and bacteriostatic.

Used in the final rinse, BacStop™ continually eliminates 99.9% of infectious bacteria and remains active on textile surface, continuing to aid in the prevention of cross contamination from both Gram Negative bacteria (ie. Kiebsiella pneumonia) and Gram Positive bacteria (ie. Staph – a major cause of hospital acquired (nosocomial) and Community acquired infections), providing protection throughout the use cycle of the uniforms, linens and other textiles.



**THE INDUSTRY
STANDARD
FOR CLEAN**



Safety Suds used in conjunction with BacStop has been used to successfully pass the 2020 edition of NFPA 1851 verification for advance cleaning and sanitization.

HOW TO USE

Always follow NFPA 1851 Guidelines

	 Number of garments	 OZ of detergent
Light Load	2-4	4 OZ
Medium Load	4-6	8 OZ
Heavy Load	10-12	10-12 OZ

For Heavily soiled garments add 4 OZ's

AVAILABLE IN 1 GALLON AND 5 GALLON

**SPEND LESS TIME IN
THE HAZARD!**

UTILITY RINSE SYSTEM

DUAL USE WETTING SYSTEM FOR:
**WET MITIGATION AND
OVERHAUL**



► WET MITIGATION

For Preliminary Exposure Reduction per NFPA 1851, the SUDZ-IT Utility Rinse System can easily be utilized by attaching the quick connect hose and SUDZ-IT Decon Brush. The SUDZ-IT Brush produces high quality SUDZ to help remove debris and particulates before doffing. Unlike dish soap, SUDZ-IT is formulated with a neutral pH to meet all requirements of NFPA 1851.

► OVERHAUL

The SUDZ-IT Utility Rinse System utilizes either a SUDZ-IT DONUT or SUDZ-IT BLOCK which produces water with reduced surface tension which can penetrate up to 7 times more than water alone. Deeper penetration ensures any hot surfaces are cooled and any areas that are still smoldering are extinguished readily.

Using a wet soap-based approach to Preliminary Exposure Reduction has shown up to

85%

reduction in fire debris and particulates.



— TOXIC —
SUPPRESSION

04

Extractor & Air Dryer Cabinet



— TOXIC —
SUPPRESSION

**The first extractor package
on the market to offer out
of the box PRE-
PROGRAMMED NFPA
1851 Compliance**

EXTRACTOR



PACKAGE INCLUDES

- 30lb, 40lb, 62lb Soft Mount PPE Extractors and Base
- Pre-wired two-pump chemical injector and hose package
- 5 Gallon Pail of Safety Suds Bunker Gear Detergent
- 5 Gallon Pail of BacStop OPL EPA Rated Fabric Sanitizer

- more models available

AVAILABLE IN

30 lb.

model:
EXT-30

40 lb.

model:
EXT-40

62 lb.

model:
EXT-62

10 Year Limited Warrenty

PRE-PROGRAMMED TO MEET NFPA 1851 REQUIREMENTS

The first extractor package on the market to offer out of the box preprogrammed NFPA 1851 Compliance

PRE-WIRED TWO PUMP CHEMICAL INJECTION SYSTEM

The latest edition requirements of NFPA 1851 require more than using detergent. Each solution comes standard with a two-pump injection system so both detergent and sanitizer can be automated

ISP PROVEN DETERGENT AND SANITIZER

Safety Suds Bunker Gear Detergent is used by ISP's and major metro fire departments across the US..BacStop OPL is an EPA rated fabric sanitizer that leaves a bacteriostatic finish that can last for up to 6 months

AIR DRYING CABINET

TOXIC SUPPRESSION'S FORCED AIR DRYING CABINET IS THE BEST CHOICE TO GET YOUR TOXIC CLEANED BUNKER GEAR BACK IN TO SERVICE.



Gear Features:

- (4) Forced Air coat hangers,
- (1) glove rack (that hold 26 gloves)
- (2) Forced Air boot hangers (holds 12 boots)
- Conforms to NFPA 1851 guidelines
- 5 selectable temperature settings including air only
- Optional hangers for boots and gloves, and shelves for hoses
- Built-in floor drain to remove water drip off
- Flush mounted lockable slam latch
- Energy efficient 6kW heating element
- Operates on standard 240V single phase 40 amp service
- 2-year limited warranty

ACTIVELY NEUTRALIZES HARMFUL VOCs, VIRUSES, BACTERIA, AND MOLD

Firefighters and Emergency Response Personnel are continuously exposed to harmful contaminants. Their PPE becomes contaminated and may off-gas VOCs which can result in inhalation exposure. Additionally, the recent outbreak of the novel coronavirus, SARS-CoV-2, has made air and surface cleaning “mission critical” for their working environment, including fire apparatus, ambulances, and law enforcement vehicles.

UNDERSTANDING NPBI

The Sentinel 300 delivers a cleaner cab by actively reducing harmful contaminants in Emergency Vehicles. Its patented Needlepoint Bipolar Ionization (NPBI™) technology uses a precise electric charge to generate ions that neutralize VOCs, viruses, bacteria, and even mold. The Sentinel is designed for safe and continuous operation even while vehicles are occupied.



NPBI Technology used by...

- BOSTON CHILDREN'S HOSPITAL • GOOGLE •
- WHITE HOUSE • HOUSTON METHODIST HOSPITAL •



IDEAL FOR:

- Fire Apparatus
- Ambulance

TECHNICAL SPECIFICATIONS:

Model: Sentinel300 CFM Unit

Input Voltage: Input 12V or 24V DC

Input Voltage Draw: 4A @ 12V or 2A @ 24V DC

Dimensions: 11.4" x 8.2" x 3.9"
(29 x 20.8 x 9.9 cm)

Weight: 8lbs (3.63 kg)

Sound: 59dB

Includes: Sentinel300, mounting bracket, cigarette plug power adaptor with 3-Pin Deutsch Plug, constant run or 1-hour timer.

Airflow: 300 CFM

Once installed, the Sentinel actively deactivating pathogens,



Self-Cleaning

SENTINEL2500
guarding the air you breathe



IDEAL FOR:

- Any room lacking ventilation (Gear Storage Rooms, Locker Rooms, Apparatus & Squad Bay)
- Post Fire Rehabilitation area
- Anywhere people congregate or assemble
- Meeting Rooms

TECHNICAL SPECIFICATIONS:

Model: Sentinel2500 CFM Unit

Dimensions: 24.5" x 24" x 14.5"
(62.2 x 61 x 36.6 cm)

Weight: 31lbs (14.5 kg)

Sound: 58-72 dB

Includes: Sentinel2500 unit with
110 V AC Power Plug.

Airflow: 2500 CFM

SENTINEL100
guarding the air you breathe



IDEAL FOR:

- Automobiles
- Law Enforcement vehicles
- Fire Department support vehicles
- Designed to fit into a standard size console idea for First Responders.

TECHNICAL SPECIFICATIONS:

Model: Sentinel100 CFM Unit

Input Voltage: Input 12V or 24V DC

Input Voltage Draw: 2.7 A

Dimensions: 6" x 8" x 6"
(15.2 x 20.3 x 15.2 cm)

Weight: 3.8lbs (6.63 kg)

Sound: 44dB

Includes: Sentinel100 push button test light, indicating unit is operational, 6 foot cord with 3 pin Deutsch plug, air box with a Liquid drain, so spills do not enter the units electronics, constant run or 1-hour timer.

Airflow: 100 CFM

units constantly deliver NPBI generated ions, actively neutralizing VOC's and actively agglomerating fine particulate matter including smoke.

✓ **No Maintenance**

✓ **No Consumable Components**

WHY MONITOR AIR QUALITY?

The Sentinel IQ, powered by Senseware is an accurate indoor air quality monitoring system that alerts you on the level and nature of pollution in your air, **enabling corrective action.**

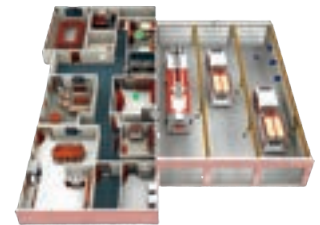
POWERED BY
senseware

REAL-TIME AIR QUALITY MONITORING

3 Configurations Available

- 1 Sentinel IQ-CO**
Temperature + Humidity (T/H)
Carbon Monoxide (CO)
Carbon Dioxide (CO₂)
Volatile Organic Compounds (VOC)
Particulate Matter 0.3-1.0, 2.5, 10
Ventilation Performance Index
Mold Growth Index
- 2 Sentinel IQ-Ion:**
Sentinel IQ-CO (except for CO) plus Ions
- 3 Sentinel CAPP Program**
Design your own sensor pack.
Specialty sensors include:

Hydrogen Sulfide (H₂S)
Ozone (O₃)
Nitrogen Dioxide (NO₂)
Sulfur Dioxide (SO₂)
Light
Motion/Occupancy
Sound, Vibration, Pressure
Formaldehyde (HCHO)
HCN



TEMPERATURE

Higher temperature (above 85 degrees) results in higher VOC offgassing rates. Can also indicate remotely if the vehicle heating or cooling system is operating properly.



HUMIDITY

Studies have show relative humidity levels below 40% increases the risk of transmission of Covid-19. When relative humidity levels are below 40% and above 80%, viruses can survive for extended periods in the air and on hard surfaces.



VOLATILE ORGANIC CHEMICALS

WHO categorized diesel fumes as carcinogenic falling into the same category as asbestos and arsenic. The VOC sensor picks up many of the hazardous VOC's present in diesel fumes.



CARBON DIOXIDE (CO₂)

Carbon dioxide at levels that are unusually high may cause occupants to grow drowsy, to get headaches, or to function at lower activity levels. CO₂ is also used as an indicator of proper ventilation performance



PM 0.3, 0.5, 1, 2.5, 5, 10

The only remote monitoring sensor that captures:

PM10 : Inhalable particles like dust, pollen and mold.

PM2.5 : Fine inhalable particles from sources like vehicle exhaust, smoke and cooking gas.

PM0.1 - 0.3: Ultra fine particles like COVID-19 and other viruses



ION CONCENTRATION (OPTIONAL)

The only remote monitored Ion sensor in the industry. Validates the performance of The Sentinel Purifier. High Ions will result in lower VOC's and PM's of all sizes.



CARBON MONOXIDE (CO)

CO is a colorless, odorless gas that can kill you. The most common symptoms of CO poisoning are headache, dizziness, weakness, upset stomach, vomiting, chest pain, and confusion.

SENSEWARE CLOUD CORE

The Sentinel IQ platform is unmatched across the industry with impressive real-time analytics capabilities.



PLACE YOUR MODULES IN KEY AREAS



BUNKER GEAR /
STORAGE ROOMS



BUNK ROOMS /
COMMON AREAS



CONFERENCE
ROOMS



FIRE APPARATUS /
AMBULANCES



CERTIFICATIONS

UL-2095

Preliminary data shows
Grade A for
T/H/CO2/PM2.5
TVOC still under analysis

WELL

Compliant with the WELL
Standard for continuous
monitoring

RESET

Exceed the requirements
for the RESET certification

FITWEL

Compliant with Fitwel
Enhanced Indoor Air
Quality Monitoring Policy



What's your electric vehicle response policy?

SUDZ-IT EV Utility Nozzle

“ The first of its kind, designed to be slid under burning objects, to help cool them down and extinguish stubborn fires. ”

The SUDZ-IT Utility Nozzle allows for water to be sprayed in the tightest of spaces. This low-profile nozzle is perfect for electric vehicles which often have a clearance of less than 6 inches. It distributes water evenly, precisely, and safely to the most inaccessible part of the vehicle, the battery pack.

As electric vehicle fires are an extended event, using the SUDZ-IT EV Utility Nozzle makes every precious drop of water count in order to do its job – cool and extinguish.

The spray pattern has been engineered to cover a space of 8 ft by 16 ft between 5 and 12 inches high. A spray pattern covering 128 Square feet.

The SUDZ-IT Utility Nozzle incorporates a set of skids attached to the nozzle to make placement easier and comes standard with two 3-foot extension pipes fitted with a water curtain nozzle to provide radiant heat protection while setting in place. Once the EV Utility Nozzle is in place, the firefighter can then safely back away and go about their job.



SPECIFICATIONS

SUDZ-IT Utility Nozzle:

- 12" Long x 9" Wide x 2 1/2" High - Weight 4 Pounds
- EX Nozzle flow is adjustable from 60 GPM up to 150 GPM at 100 PSI (at the time of Manufacture)
- Factory base flow is 60 GPM at the nozzle.

Extension Tubes:

- 1 x 40" long x 8" Wide (at the skid) x 6" High (at the fan nozzle)
Weight 6 Pounds
- 1 X 40" Long x 1.5" Wide x 1.5" High
Weight 4 Pounds



APPLICATIONS

- Electric Vehicle fires
- Scooter battery fires
- Traditional engine fires
- Pallet fires
- Cooling LP tanks
- As a decon nozzle
- As a decon shoe head
- Over hauling furniture
- Wetting a fire break
- Overhauling tight areas



08**Clean Space
Ultra Pos+Plus**

Clean Space Ultra Power System

A REVOLUTION IN RESPIRATORY PROTECTION

- Approved PAPR with HEPA filtration
- Comfortable and easy to wear over long periods
- Lightweight (500g/1.1 lb) and compact
- **No hoses, belts or waist-mounted battery packs. Fresh airflow, and no fogging**
- Offer air-on-demand using our – AirSensit Technology
- Reliable and fast cleaning
- Reusable and cost-effective
- HEPA & Nuisance Odor filters available
- NIOSH, AS/NZS 1716 &
- CE Mark approved
- Rechargeable Battery with up to 8 hours use



The gold standard in Personal Respiratory Protection for workers in

environments requiring face/eye protection and water tolerance (IP Rated 66).

A powered air purifying respirator (PAPR) designed for high protection, comfort and cost effectiveness.

Replace wearing SCBA, where air content is properly oxygenated, and fumes or odors are still a concern.

Reduce exposure to hazardous or cancer-causing substances.

CleanSpace®
RESPIRATORS

Clean Space Ultra Power System

3 Kits to Choose From



Includes:

- (1) CleanSpace Ultra Power system HICAP including charger
- (2) NIOSH High Efficiency (HE) Particulate & Nuisance Filter
- (1) CleanSpace Cleaning and Storage Plug
- (3) Neck inserts
- Flow test cap
- Carry bag

Kit #1 Full Mask

Includes everything above
(1) CleanSpace Full Face Mask
*1-fit test plug

Kit #2 Half Mask

Includes everything above
(2) CleanSpace Half Face Mask

Kit #3 Both Full and Half Mask

Includes everything above
(1) CleanSpace Full Face Mask
(2) CleanSpace Half Face Mask
*1-fit test plug



Emergency Services Uses

- Fire Investigations
- Overhaul
- HazMat
- Outdoor Fires
- Decon
- EMS
- Police LAB/Drug Investigations
- Coroner Cases



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CleanSpace[®]
R E S P I R A T O R S