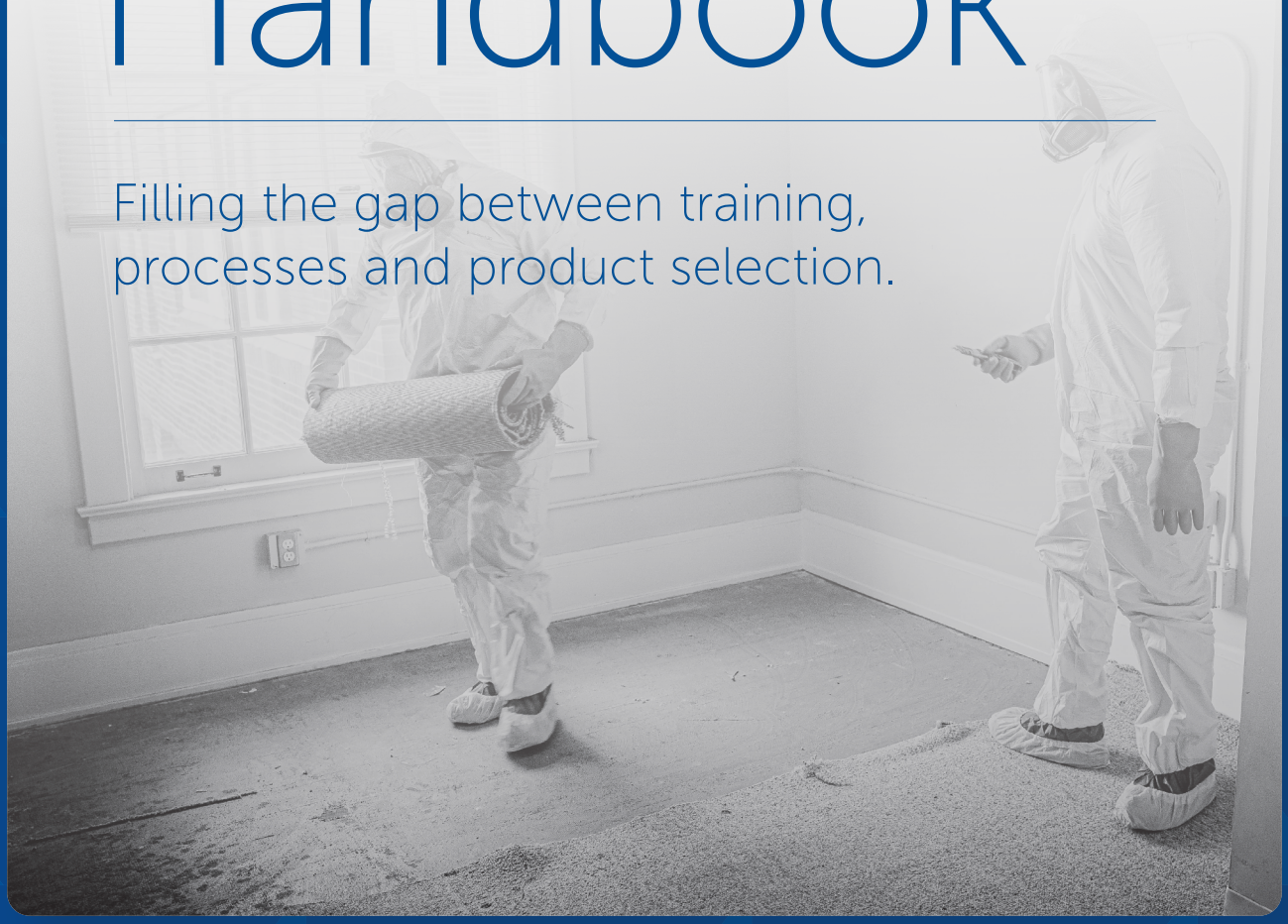
actichem

Edition Two

# Disaster Restoration Handbook

Filling the gap between training, processes and product selection.



# Contents

# About Us.

We're a family-owned company who have been providing speciality cleaning and protection products out of Newcastle, NSW since 1999.

## Our Purpose.

At Actichem our purpose is to increase your confidence, capabilities and businesses tenfold.

## Our Mission.

At Actichem our mission is to increase your productivity through solving cleaning challenges.

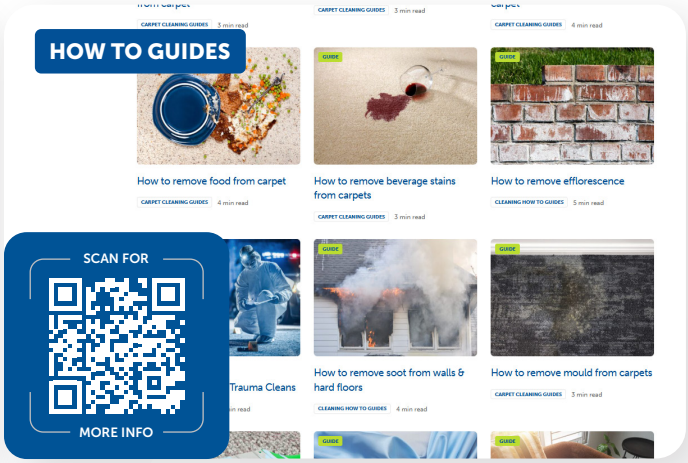
# What Do We Provide You?

## Unmatched Support & Resources

Discover the unparalleled support and resources we provide to boost your productivity and growth by solving cleaning challenges.

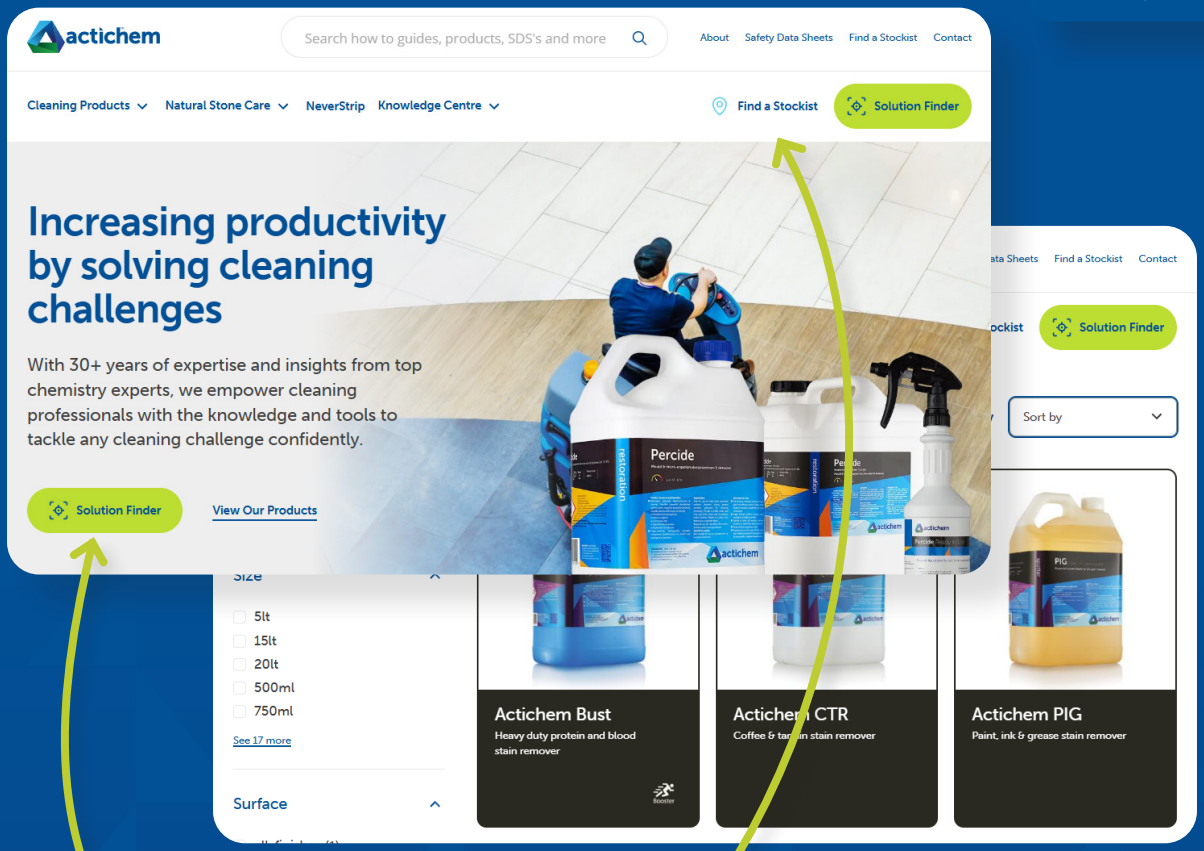
> You sell more than just products. You provide solutions.
>
> Customer Feedback

- **Training Webinars:** Increase your team's knowledge of the chemistry behind cleaning to give them the capabilities to provide the right solution for every cleaning challenge.
- **Supporting Documents:** A comprehensive library of supporting documents including, product info sheets, SDSs, charts, guides and more.
- **Access to the Knowledge Centre:** An ever growing library of professional solutions for professional disaster remediators. Allowing you to always have the right solution to any cleaning challenge.
- **Direct Access to the Manufacturer:** Unlimited access to cleaning and chemistry experts. No cost & no wait time, ensure that any cleaning challenge or product query you may have will be addressed at the time of need. Giving you peace of mind knowing there will always be a solution to any cleaning challenge that may arise.
- **Chemical Consultation:** Facing a complex remediation challenge? Book a chemical consultation and ensure the right chemistry is aligned to the job — reducing risk, avoiding costly rework and increasing productivity on site.

# New Website

SCAN FOR WEBSITE




**1.**

## SOLUTION FINDER

Find the perfect solution for all your cleaning challenges for free!

**2.**

## STOCKIST FINDER

Find your closest Actichem distributor by entering in your suburb.

**3.**

## EXTRA RESOURCES

Enable you to enhance your cleaning results and increase revenue.

# Thymox

## AUSTL 400439

ISSA INCLEAN
EXCELLENCE AWARDS 2023
★★★★★
WINNER


### Thymox

**A powerful solution for all disinfection and cleaning needs, made with thymol, a botanically derived active ingredient.**

- **Application:** Thymox is a versatile, botanically-derived, hospital-grade disinfectant made from Thymol, effective across various environments including healthcare, disaster restoration, residential, and commercial spaces.
- **Features:** This award-winning disinfectant kills 99.99% of germs, viruses, fungi, and molds while cleaning, sanitising, disinfecting, and deodorising in a single step, with no rinse required.
- **Solution:** Thymox offers a comprehensive solution for disinfection and decontamination on a wide range of surfaces, ensuring safe and environmentally friendly cleanliness in sensitive and high-risk areas.

**Dilution:** Ready to use

pH: 6
NEUTRAL

WOOLSAFE APPROVED

CLEANSEAL APPROVED

SCAN FOR
MORE INFO

**SAFE**
Safe for everyday use. Botanically derived.

**VERSATILE**
Compatible with foggers & sprayers

**FAST-ACTING**
Rapid pathogen kill rates.

**KILLS 99.9% OF GERMS**
VIRUSES: HIV-1, Swine Influenza A, H1N1, RSV, SARS Cov-2, Bacteria, Fungi & Moulds, Norovirus.

**4-in-1**
Replaces numerous products. Thymox can disinfect + sanitise + clean + deodorise

**INTERNATIONAL REGISTRATIONS**
TGA Listed Hospital Grade, Disinfectant, Health Canada (EPA) Environmental Protection Agency.

# PPE & Safety

The proper use of Personal Protective Equipment (PPE) is paramount to ensure the safety and well-being of workers on the front lines of restoration. Below is a guide on choosing the correct PPE for a chemical. Note that the nature of the cleaning operation may require additional protection. The below summary is a guide only and does not take account of your particular circumstances or requirements. All users need to conduct their own due diligence to ensure the correct PPE is chosen and used. This guide refers to Section 2 HAZARDS IDENTIFICATION in the product safety data sheet (SDS). Note that most chemicals require dilution and could be less hazardous during application. If in doubt check-in with your Actichem representative.

## Safety Eye Wear

- SDS ref: H318(H314) Causes severe skin burns and eye damage – safety goggles or/and full-face shield
- SDS ref: H319 Causes serious eye irritation – safety goggles or/and full-face shield
- SDS ref: H320 Causes eye irritation – safety goggles or/and full-face shield
- SDS ref: No warning or no protection recommendation – safety glasses

## Gloves

- **SDS ref:** H311/312 Toxic/Harmful in contact with skin – elbow length chemical resistant glove
- **SDS r**ef: H314 Causes severe skin burns – elbow length chemical resistant glove
- **SDS r**ef: H315 Causes skin irritation or P280 Wear protective gloves – heavy duty disposable gloves
- SDS ref: H316/317 or no warning or no protection recommendation – latex disposable gloves

## Coveralls

Wear relevant grade coveralls if skin or clothing contact is possible with chemicals carrying H311, H312, H313, H314 warning statements. This is especially relevant where chemicals are fogged, sprayed or used in confined spaces.

- Chemical and biological/infectious hazard – coverall CE Type 3/4 complying with EN14126

## Respiratory Mask

All respiratory equipment must comply with AS/NZS 1716:2012 or/and AS/NZS 1715:2009.Note: specialised micro-particle filters may also be required due to the nature of the work being done. Fogging or bulk fine spray of any chemical solution – full/half face respirator with Filter Type A. Aerosolised application of chlorine or hydrogen peroxide (<12%) – full/half face respirator with Filter Type B.

- SDS ref: H331/332 Toxic/Harmful if inhaled – full/half face respirator with Filter Type A or B (see above)
- SDS ref: H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled – full/half face respirator with Filter Type A or B (see above)
- SDS ref: P260 Do not breathe mist / vapours / spray, if aerosolised (not fogged) – P2 Moulded respirator mask
- Aerosolised application of any chemical with no respiratory warning – P2 Moulded respirator mask

## Important Note

The information provided in this brochure about Personal Protective Equipment (PPE) is for general guidance only. We make no warranties regarding its accuracy or reliability. Users should consult relevant authorities, follow local guidelines, and receive proper training.

We are not liable for any loss or damage resulting from the use of this information. Users accept responsibility for assessing equipment suitability and compliance with applicable laws and standards.

# Mould Remediation

## Chapter One

**Mould:** More than just an unsightly nuisance or silent killer. In reality, it's both. Not only can it cause severe health issues, but in some cases, it can even be fatal. That's why it's crucial to take action against it. Luckily, with Actichem's cutting-edge mould removal products, you can swiftly and effectively eliminate the problem, achieving outstanding results

# Mould

## Uncover the Science Behind Mould

According to a study published in the Medical Journal of Australia in 2021, indoor mould exposure is estimated to cause around 6,500 new cases of asthma and 16,000 asthma-related emergency department presentations in Australia each year.

### What Is Mould

Mould is a term used to refer to fungi that grow in the form of multicellular thread-like structures called hyphae. Up to date nearly 70,000 species of fungi have been identified with the total number thought to exceed 1.5 million. The most common outdoor mould is the Cladosporium spore with indoor mould types being dominated by several varieties including aspergillus and penicillium.

Moulds are typically associated with negative health effects and spoilage of host materials, however many moulds are useful and play an important role in bio-degradation or in the production of various foods, beverages, antibiotics and enzymes.

### Health Effects Caused By Mould

The health hazards of moulds are often misunderstood. The most common response to mould is an allergic reaction. Moulds themselves are seldom toxic however many moulds produce airborne mycotoxins which when inhaled or ingested can cause severe allergic reactions such as respiratory irritations, nausea, dizziness and headaches.

The health effects are dramatically pronounced indoors where conditions are often conducive to mould growth which is then accentuated by the restriction of free air movement and air change. So, when mould grows indoors, the number of mould spores and fragments is usually higher than it is outdoors and contribute to poor indoor air quality (IAQ).

### Conditions In Which Mould Grows

Mould, by definition, requires moisture, warmth and organic matter to germinate and grow. Many mould spores can lie dormant until these conditions eventuate. Mould germination will often occur in as little as 6 hours. Dampness occurring in building materials, carpet, fabrics, etc for even half a day can dramatically raise the risk of biological growth. Poor ventilation contributes to higher humidity levels and leads to condensation, which also facilities and promotes mould growth and infestation. Considering these growth conditions, it is easy to understand that the vast majority of mould grows in porous substrates where moisture is restricted from quick evaporation (eg wood, sandstone, concrete, plasterboard).

### Where Is Mould Found

Mould is mostly found in porous building materials where it often appears as a dark stain and comes in a variety of colours. A musty smell is an indication of microbial growth even when there is no visible growth. Mould is often easily identified by visual inspection; however, many other areas may also be affected. An Indoor Environmental Professional will use moisture meter readings and thermal imaging equipment in conjunction with mould sampling to accurately identify Mould colony growth.

Mould will grow anywhere conditions are favourable, especially where moisture was or is prevalent. These areas can also include roof cavities and sub-floor areas where air movement is restricted.

## Removing Mould From Surfaces

### Plasterboard

Painted plasterboard will sustain mould growth. If mould growth is limited, plasterboard is best cleaned using Biosan II or Percide. For server mould scenarios, the cellulose portion of the plasterboard will be spoiled and must be removed. Heavy mould growth can compromise paintwork on plasterboard, as mould roots can grow between the two surfaces. When the mould is treated and removed, the paint may bubble due to voids left where the roots once were.

### Structural Timber

This includes wall studs, rafters, plywood, particle-board and other timber with an unfinished surface. Mechanical removal has been widely used for these surfaces, however deep penetration biocides such as Biosan II, Percide and Mould Exterminator have proved extremely effective with significantly less structural damage and disruption. Timber can be damaged by mould and display increased porosity following remediation.

### Carpet & Textiles

Minor to medium mould growth on synthetic carpets can mostly be remediated using Biosan II or Percide. Professional opinion is advised when dealing with natural fibres and/or carpets with jute backing. Wool can be permanently spoiled by mould as can be fibres and backing containing cellulose which includes cotton, jute and canvas. Where carpets have more than surface mould, the carpet must be lifted, the underlay discarded and the front and back and floor base treated.

### Concrete, Masonry & Natural Stone

These building materials do not create favourable mould growing environments except for the fact that they are often porous. Where there is moist conditions with limited sunlight, mould will grow readily. These mould infestations can be effectively removed using Actichem Mould Exterminator or if inside, they should be remediated using Biosan II or Percide. Water blasting is often used but this technique does not kill the mould and regrowth occurs more rapidly.

### Finished Timber

Finished timber includes wooden floorboards, doors and frames, window frames and furniture. Wood of this nature is typically sealed and hence porosity is very low. Where surface mould growth is present, they are best washed down with a solution of Biosan II or Percide. If severe moisture ingress has occurred (eg flooding) some substrates may require removal and/or sanding down to restore the wood appearance caused by water damage.

### Natural Stone

Fine stone (marble, limestone, travertine, granite) should be cleaned down and treated with Biosan II. Percide or Mould Exterminator can also be used with great effect, especially if staining is present, If Percide is used, always add Percide Boost to avoid etching. Construction stone (sandstone, bluestone) should be treated in the same manner as masonry.

### Tiles and Glass

Ceramic and porcelain tiles and glass do not support mould growth due to their very low porosity. Where mould is deposited on these surfaces treat with a solution of Biosan II or Percide.

# Mould Remediation Principles

## Different methods of eradicating mould

### Biocides & Antimicrobials

Biocides and antimicrobials are excellent tools for mould remediation projects, but they must be used strictly as directed, with their capabilities and limitations understood. They must be used as part of a comprehensive mould remediation process and not a stand-alone remediation tool.

Formulated biocides can be great for remediating mould surfaces, however if gross soiling and bioburden is present, this must be removed first. Modern chemistry facilitates successful mould eradication in an increasing number of applications where sanding and other time intensive operations were previously required.

**Chemical biocides used in mould remediation, include:**

- Benzylkonium chloride (Quaternary ammonium compounds) are one of the most lethal fungicides available. They are often chosen because of their inherent cleaning ability, relatively low hazard profile, dilutability and compatibility with most surfaces. However, they have limited ability to remove the associated staining or discoloration.

- Glutaraldehyde is a powerful fungicide but needs to be used at strong concentrations which results in a hazard profile too high for efficient use.

- Chlorine is a powerful fungicide and when professionally formulated is very effective. It's use however is restricted to outdoors due the release of harmful chlorine vapours. It very effectively removes mould staining and discoloration.

- Hydrogen Peroxide shows strong fungicidal activity but must be professionally formulated to provide sufficient hydroxyl radicals and ensure sufficient penetration into porous materials. It very effectively removes mould staining and discoloration.

### Mechanical Removal

Mould growth on certain substances and applications may require physical abrasive methods to effectively remediate the surface.

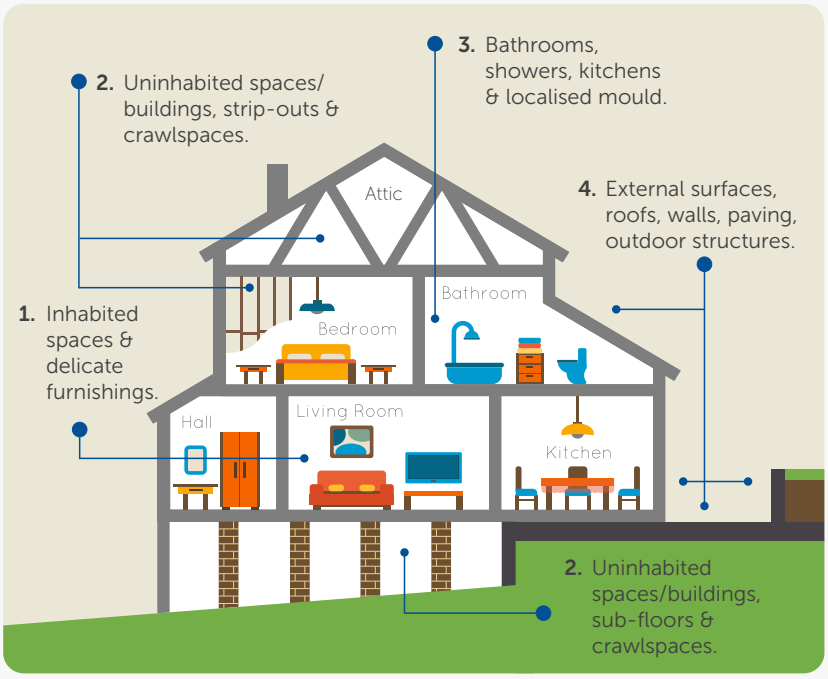
These methods can be very effective but have limited use indoors and can damage the surface being treated.

Special consideration must be taken to prevent excess dust and the creation of air-borne Mould spores spreading to other areas. Thorough clean-up is required including the use of HEPA vacuum equipment.

- Sanders and Wire Brush – Orbital and belt sanders and wire brushing are effective in physical mould removal from structural timber.

- Soda blasting – Sodium bicarbonate is used to remove mould growth.

- Dry Ice Blasting – Uses dry ice to remove mould growth. Whilst a cleaner operation than soda blasting and sanding, elevated levels of carbon dioxide and the resulting depleted levels of oxygen require self-contained breathing apparatus if used inside.




# The Locations Mould Is Most Commonly Found

Take notice of where the mould is. Some surfaces or/and adjoining surfaces may be damaged by some mould removal products. And living areas shouldn't be treated with chemicals which pose a health risk to the occupants.

Remember that mould will grow wherever moisture or moisture laden air has been. This includes many "hidden" areas such as sub-floors, roof spaces and inside cupboards.

## 1. Inhabited Spaces/Internal Surfaces

Inhabited spaces or/and internal surfaces are the most sensitive substrates to remove mould from. Many surfaces can be damaged by the mould itself. You must also consider for the occupants, the adjoining substrates and the surrounds and how they may be affected by the mould removal process and chemicals used. The key goal is to restore a healthy indoor environment. Environmental Hygiene Specialists and swab testing may be required.

## 2. Bathrooms, Showers & Localised Mould

Bathroom and shower surfaces have high propensity for mould growth, given the warm, moist conditions. Surfaces are typically more resilient and more aggressive mould removal chemistry can be used. Localised mould growth in living areas is defined as isolated, small dinner plate size outbreaks on walls, ceiling or carpet caused by an isolated happening e.g. a spill or a leaking fridge, etc.

## 3. Uninhabited Surfaces

Uninhabited spaces include unoccupied buildings, strip-outs, sub-floors, crawl spaces and attics. They are often the scene of severe mould situations. Inaccessible areas are one of the largest challenges. Collateral damage by the mould removal process is much lower and more aggressive chemistry and processes can be justified. The key goal in removing mould from uninhabited spaces is mostly to restore a healthy environment. Environmental Hygiene Specialists and swab testing may be required.

## 4. External Surfaces

External surfaces include external walling, retaining walls, walkways and driveways constructed from natural stone, concrete, masonry or timber. The key goal in removing mould in these areas is aesthetic. The potential for collateral damage to other surfaces is much lower and more aggressive chemistry and processes can be justified. However special consideration must be given to adjoining vegetation and the final destination of run-off.

# Mould Removal Guide

| |  Percide |  Percide + Boost |
|---|---|---|
| **Function** | Ready-to-use | 9 Parts Percide + 1 Part Boost |
| **Actives** | Hydrogen Peroxide | Hydrogen Peroxide |
| **Kill mould organism** | ★★★★★ | ★★★★★ |
| **Removes mould stain** | ★★★★★ | ★★★★★ |
| **Extreme mould build-up** | ★★★★ | ★★★★★ |
| **Super-wetting ability** | ★★★★★ | ★★★★★ |
| **Safety (in-use)** | Irritant | Irritant |
| **Odour** | Nil | Mild chemical |
| **Area of Use** | | |
| **Textiles, carpets & furnishings** | Yes<br>(Dilute 1:1 for natural fibres) | Yes<br>(Only solution dyed fibres) |
| **Indoor & inhabited areas** | Yes<br>(Ideal) | Yes<br>(Ideal) |
| **Strip-outs & uninhabited areas** | Yes | Yes<br>(Ideal) |
| **Bathrooms & showers** | Yes<br>(Ideal) | Yes<br>(Ideal) |
| **Stone, concrete & paving** | Yes | Yes |
| **Shade sails** | Yes<br>(Dilute 1:1 for canvas & cotton) | Yes<br>(Synthetic materials only) |
| **Aerial mould treatment** | Odourtak or Deostor Spray | Odourtak or Deostor Spray |
| **Chemical odour counteraction** | Not required | Not required |
| **Application Method** | | |
| **Spray or mist** | Yes | Yes |
| **Wet fog** | Yes | No |
| **Sponge or cloth** | Yes | Yes |




| Biosan II | Mould Exterminator | Hypo Enforcer + Chlorine |
|---|---|---|
| 1:16 | Ready-to-use | 1Lt Hypo Enforcer per 15Lt Pool Chlorine |
| Quaternary Ammonium Compound (QAC/Quat) | 5% active chlorine | 12% active chlorine |
| ★★★★★ | ★★★★★ | ★★★★★ |
| ★★ | ★★★★★ | ★★★★★ |
| ★★ | ★★★★★ | ★★★★★ |
| ★★★★★ | ★★★★★ | ★★★★★ |
| Non-hazardous | Irritant  | Corrosive  |
| Fresh Lemon | Mild Chlorine | Strong Chlorine |
| | | |
| Yes (Stain resistance of 5th gen nylon will be affected) | No | No |
| Yes (Ideal) | Yes (Use with caution) | No |
| Yes | Yes (Ideal) | Yes (Ideal) |
| Yes (Ideal) | Yes (Use with caution) | No |
| Yes | Yes (Ideal) | Yes (Ideal) |
| Yes (Ideal) | Yes (Synthetic materials only) | No |
| Odourtak or Deostor Spray | Odourtak or Deostor Spray | Odourtak or Deostor Spray |
| Not required | Odourtak or Deostor Spray | Odourtak or Deostor Spray |
| | | |
| Yes | Yes | Yes |
| Yes | No | No |
| Yes | Yes | Yes |

# Mould Removal Chemistry

## Powerful chemistry for lasting results


### Percide

**Fire restoration cleaner for carpets, fabric & delicate surfaces**

PH: 5.5-6
ACIDIC

**Application:** Percide is a peroxide-based mould remediation solution that rapidly eradicates mould spores and removes hyphae and roots from surface pores.
**Features:** Its fast-acting formula causes visible fizzing as it works, achieving a 99.99% kill rate within 5 minutes. Percide + Boost delivers a 99.9999% kill rate, making it highly effective in removing mould stains with a favorable occupational health and safety profile.
**Solution:** Percide provides a fast, reliable, and powerful solution, ensuring thorough remediation and long-lasting protection against mould growth.
**Dilution:** Ready to use.

| PRODUCT FRAGRANCE | SAFETY INFO | TGA LISTED |
|---|---|---|
| No Fragrance | Skin & Eye Irritant | Listed Disinfectant AUST L 332284 |

SCAN FOR MORE INFO


### Percide Boost

**Peroxide Activator (Standard, Fog & Foam options available)**

ADDITIVE BOOSTER

**Application:** Percide Boost is an accelerator for Percide, enhancing its micro-organism killing power and destaining ability, particularly effective in tough mould situations.

**Features:** With a simple 1:9 mix ratio with Percide, it rapidly enhances mould eradication, achieving a >4.5 log reduction in just 5 minutes. Its advanced formula penetrates deep, ensuring thorough sanitisation and odour removal.

**Solution:** Enhances the strength of Percide to effectively eradicate even the toughest mould removal situations, ensuring a complete kill.
**Dilution:** Add to Percide at 1:9

| PRODUCT FRAGRANCE | SAFETY INFO |
|---|---|
| No Fragrance | Skin & Eye Irritant |

SCAN FOR MORE INFO


# Biosan II®

**Mould, flood & micro-organism decontaminant**

PH: 7.5
NEUTRAL

**Application:** Biosan II is a mouldicide that combines advanced Quaternary Ammonium Compounds with potent penetrants to provide powerful mould and biocide action on virtually any water-cleanable surface.
**Features:** Its formula offers fast and effective mould killing power, with a low-hazard profile and excellent cost-effectiveness. Biosan II provides super-penetrating action, ensuring thorough mould elimination.
**Solution:** Biosan II eradicated mould with quick, reliable results, achieving a high kill rate on mould like Aspergillus Brasiliensis, while being safe and economical for widespread use.
**Dilution:** 1:16 to 1:64

| PRODUCT FRAGRANCE | SAFETY INFO | TGA LISTED |
|---|---|---|
| Mild, Fresh Lemon | Non Hazardous | Listed Disinfectant AUST L 332364 |

SCAN FOR MORE INFO

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GECA CERTIFIED


# Forest Fresh

**Environmentally friendly commercial grade disinfectant**

PH: 8.5
NEUTRAL

**Application:** A commercial-grade disinfectant and odour neutraliser formulated for safe, eco-friendly cleaning of virtually all water-cleanable surfaces.
**Features:** It combines powerful biocidal action with high-performance odour neutralisers, offering excellent penetration and economical use. Forest Fresh is GECA eco-friendly approved and safe for use in areas where water run-off might reach waterways.
**Solution:** Is ideal for initial washdowns, commercial or DIY clean-ups, and situations where disinfecting, odour neutralising, and re-odourising are needed.
**Dilution:** 1:25 to 1:50

| PRODUCT FRAGRANCE | SAFETY INFO | TGA LISTED |
|---|---|---|
| Fresh Eucaplytus Pine | Non Hazardous | Listed Disinfectant AUST L 374141 |

SCAN FOR MORE INFO

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# Mould Exterminator

**Possibly the world's best mould removal solution.**

PH: 11.5
ALKALINE

**Application:** A ready-to-use solution for mould removal & disinfection. It penetrates deep into porous surfaces, killing mould at its roots & removing stains.

**Features:** Enhanced chlorine activity, super-wetting agents for deep penetration, and instant stain removal without scrubbing. Mild pH ensures safe application on target surfaces.

**Solution:** Provides complete mould remediation with fast-acting, deep penetration, and powerful disinfection. Ideal for tackling mould in buildings, roofs, walls, and more.
**Dilution:** Ready to use

| PRODUCT FRAGRANCE | SAFETY INFO |
|---|---|
| Mild Chlorine | Skin & Eye Irritant |

SCAN FOR MORE INFO

# Mould Treatment Directions

## Effective solutions for mould effected areas

Ensure that you have read and understood the safety data sheet and technical information for all chemical products used. This includes a thorough understanding of required personal protective equipment required, safe chemical use, directions for use and the limitations and capabilities of each product.

Condition 2 and 3 mould situations should only be treated by a trained remediation professional. The instructions provided below are not designed to be comprehensive it is assumed that the remediation professional undertaking the project is a qualified technician working according to the IICRC S520 Standard for Professional Mould Remediation.

**Severe mould, flood and sewage situations should only be treated by a trained remediation professional.**

### External Areas

Stone, Concrete And Masonry

**Directions**

1. Scope out the area to be treated. Set up necessary containment systems to protect adjoining surfaces including vegetation.
2. Remove all debris and loose soiling including sand, leaves and gross grime
3. Remove all mould spoiled material which is to be disposed of (eg. Rotting timber, etc) and any other material required to gain access to mould contamination.
4. Prepare solution to be used.
   - **Standard and heavy mould build-ups:** Mould Exterminator – No further dilution required
   - **Black mould areas:** Hypo Enforcer + Pool Chlorine (1Lt : 15Lt) use as is. No further dilution required.
5. Apply solution to the affected area. Ensure all areas and surfaces come into contact with the solution. Application is best affected by a course spray or scrubbing equipment.
6. Agitate wherever possible to promote contact and penetration into porous substrates.
7. Allow a minimum of 20 minutes dwell time.
8. Agitate again and rinse thoroughly with clean water. The use of a pressure washer is ideal, however hold the spray lance 2 to 3 times further away from the surface than normal.
9. For surfaces with high porosity and/or surfaces which are severely soiled, repeat steps 4 to 8 to ensure complete mould eradication.

- Sandstone is particularly susceptible to black mould. Extended dwell times may be required to achieve complete stain removal.
- Wet down surrounding vegetation before starting the job. Wash down the vegetation again at the end of the job to minimise plant damage.
- Clean all washing equipment used in a fresh solution of Mould Exterminator, Percide or Biosan II and rinse in clean water.

## Inhabited Areas

### Indoors & Occupied Buildings

**Directions**

1. Scope out the area to be treated. Remove items that may be damaged by the process and set-up any protective sheeting to protect adjoining and surrounding surfaces (eg carpets, benchtops, furniture, etc).
   Set up necessary containment systems including air scrubbers to maintain a negative pressure in the area of work. Shut down mechanical ventilation systems including air-conditioning systems. Remove all mould-spoiled material.
2. Thoroughly HEPA vacuum the area to be treated where possible.
3. Prepare solution to be used.
   - **Heavy mould build-ups and/or area with gross soiling:** Percide + Percide Boost (mix 9:1) – use as is. No further dilution required.
   - **Standard mould infestation:** Percide - use as is. No further dilution required.
   - **Large area wash-down:** Biosan II – add 65ml per litre of water (1:16).
4. Apply solution to the affected area. Ensure all areas and surfaces come into contact with the solution. Application is normally by means of a course spray.
5. Agitate wherever possible to promote contact and penetration into porous substrates. Allow a minimum of 10 minutes dwell time.
6. Agitate again and rinse thoroughly with clean water.
7. For surfaces with high porosity and/or surfaces which are moderately to severely soiled, repeat steps 3 to 7 to ensure complete mould eradication.

- For large area mould remediation, the Biosan II solution can be used. Then use Percide to remove any residual staining or discolouration.
- Clean all washing equipment used in a fresh solution of Percide or Biosan II and rinse in clean water.

## Bathrooms & Isolated Outbreaks

### Showers, Bathrooms & Localised Mould

These treatment directions assume that the host surface is not damaged by the mould.

**Directions**

1. Scope out the area to be treated. Remove items that may be damaged by the process and set-up any protective sheeting to protect adjoining and surrounding surfaces (eg carpets, benchtops, furniture, etc). Shut down mechanical ventilation systems including air-conditioning systems.
2. Thoroughly HEPA vacuum the area to be treated where possible.
3. Prepare solution to be used.
   - **Bathrooms and Showers:** Mould Exterminator use as is. No further dilution required or, Percide – use as is. No further dilution required.
   - **Standard mould infestation (Non-bathroom areas):** Percide - use as is. No further dilution required. Biosan II – add 65ml per litre of water (1:16).
4. Apply solution to the affected area. Ensure all areas and surfaces come into contact with the solution. Do not apply by spray. Sponge or cloth onto the area.
5. Agitate wherever possible to promote contact and penetration into porous substrates. Allow a minimum of 10 minutes dwell time.
6. Agitate again and rinse thoroughly with clean water.
7. For surfaces with high porosity and/or surfaces which are moderately to severely soiled, repeat steps 3 to 7 to ensure complete mould eradication.

- Where staining still remains after Biosan II treatment, use Percide to remove any discolouration.
- Clean all washing equipment used in a fresh solution of Percide or Biosan II and rinse in clean water.

## Uninhabited Areas

### Sub-Floors, Attics And Strip-Outs

**Directions**

1. Scope out the area to be treated. Set up necessary containment systems including air scrubbers to maintain a negative pressure in the area of work.
2. Vacuum all surfaces where feasible using a HEPA vacuum, and remove all mould spoiled material which is to be disposed of (eg. Plasterboard, carpet, underlay, etc), including any other material required to gain access to mould contamination.
3. If mechanical removal (eg sanding) has been recommended for some surfaces, perform this now. Then, re-vacuum all surfaces in the containment area using a HEPA vacuum.
4. Prepare solution to be used.
   - **Heavy mould build-ups and/or area with gross soiling:** Mould Exterminator or Percide + Percide Boost (mix 9:1) – No further dilution required
   - **Standard mould infestation:** Mould Exterminator or Percide - use as is. No further dilution required.
   - **Fogging Treatment:** Percide or Biosan II - add 65ml per litre of water (1:16)
   - **Large area wash-down:** Biosan II – add 65ml per litre of water (1:16).
5. Apply solution to the affected area. Ensure all areas and surfaces come into contact with the solution. Application in accessible areas is best affected by a course spray. Inaccessible areas (some attics and sub-floors) should be treated using a wet fogging machine.
6. Agitate wherever possible to promote contact and penetration into porous substrates. Allow a minimum of 10 minutes dwell time
7. Agitate again and rinse thoroughly with clean water where practical to do so.
8. For surfaces with high porosity and/or surfaces which are moderately to severely soiled, repeat steps 6 to 10 to ensure complete mould eradication.

- For large area mould remediation, the Biosan II solution can be used. Then use Percide to remove any residual staining or discolouration.
- Structural surfaces such as wall studs, floorboards under carpet, ceiling cavities, etc can be post sprayed with Percide or Biosan II solution and left as residual. This provides a biocidal residual which will further inhibit future mould growth.
- Clean all washing equipment used in a fresh solution of Percide or Biosan II and rinse in clean water.


## Where Science Meets Mould

Gain an understanding of the science behind effective mould elimination and debunk common myths.

- **Results of performance testing on various mouldicides.**
- **Gain insight into the science behind mould elimination.**
- **Ensure complete mould eradication with expert-backed knowledge.**

Learn from industry experts and gain access to exclusive resources that will help you excel in your field!.

# The Power Of A Booster

## Unlock the full potential with powerful boosters


SCAN FOR MORE INFO

### Percide Boost

Percide + Percide Boost. Add 1 part Percide Boost into 9 parts Percide. Use within 24 hours. For severe mould infestations in internal scenarios.


SCAN FOR MORE INFO

### HypoEnforcer + Chlorine (Use within 4 hours)

Add 1Lt per 15Lt Pool Chlorine. For severe mould infestations in external and uninhabited areas.


SCAN FOR MORE INFO

### Foam Boost

Percide + Foam Boost. Add 1 part Foam Boost into 9 parts Percide. Use within 24 hours. For severe mould infestations in internal scenarios.


SCAN FOR MORE INFO

### Fog Boost

Percide + Fog Boost. Add 1 part Fog Boost into 9 parts Percide. Use within 24 hours. For severe mould infestations in internal scenarios.

# Flood Clean-Up

## II Chapter Two

When prevention fails, Actichem's flood clean up products equip restoration professionals with a powerful arsenal to quickly and effectively restore flood-damaged properties. Our products make flood clean up a breeze, even in the most challenging situations.

## A Note On Surface Types

Thymox, Biosan, Percide, Deozyme and Deosan are safe for use on most water cleanable surfaces when used as directed. However please note the following;

**Carpet and fabrics**

- Biosan II, Percide and Deosan will negatively affect the stain block treatment of 5th generation nylon carpet.
- Percide contains hydrogen peroxide and pretesting must be done on suspect fibres or fabrics to prevent colour loss. The addition of Percide Boost will increase the possibility of colour loss on suspect fibres. If concerned dilute Percide 1:1 with water or use Biosan II or Thymox.

**Natural Stone**

- Thymox, Biosan II, Deozyme and Deosan are safe to use on and around all types of natural stone.
- Percide is mildy acidic and can dull shiny marble, limestone, travertine and granite. If natural stone is encountered mix Percide with Percide Boost – this mix is completely safe for use on fine stones.

**Floor boards and lacquered wood**

- Thymox, Biosan II, Percide, Deozyme and Deosan are safe for use on floorboards, coated wooden flooring and lacquered wooden furniture. However, pretesting is still advised as some coatings can be destabilised by flood or mould contamination.

**Structural timber and steel**

- Thymox, Biosan II, Percide, Deozyme and Deosan are safe for use on and around structural timber and steel.

**Plasterboard and painted surfaces**

- Thymox, Biosan II, Percide, Deozyme and Deosan are safe for use on all plasterboard and painted surfaces which are deemed to be water-cleanable.

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## Application Techniques

These Actichem solutions can be delivered using standard techniques;

**Sprayer (pump, electric or hydroforce)**

- Thymox, Biosan II, Percide, Deozyme and Deosan are all suited for sprayer application.
- Percide is not suited for hydroforce use unless used with Percide Fog Boost.
- Thymox, Biosan and Deosan are suited for use through cold/wet foggers.

**Manual Application**

- Thymox, Biosan II, Percide, Deozyme and Deosan are suited for manual application by means of a sponge or cloth.
- Biosan II Wet Wipes are ideal for smooth surfaces.

# Flood Clean-Up

## Swift & effective flood cleanup for complete restoration

It is strongly advised that technicians have completed training and/or are familiar with the IICRC S500:2021 Standard for Professional Water Damage Restoration.

### Flood Recovery

Whether you're doing the job yourself or giving advice to others, it's critical that Flood Recovery work is completed thoroughly and correctly. A professionally executed plan will;

- Protect workers and occupants from harmful microorganisms
- Minimize mould growth and eliminate pathogens
- Significantly restrict the development of odour causing bacteria and eliminate mal-odours
- Preserve and restore salvageable materials
- Minimise the use of hazardous chemicals

Flood Water is defined by three categories. Before embarking on a job the category of flood water must be know to ensure an applicable plan is created and executed. Category 1 – water originating from a clean, sanitary source such as broken water supply pipe. Category 2 – flood water containing significant contamination such as a washing machine leak. Category 3 – water which contains pathogens and toxic substances including chemicals. This includes sewage back-ups and flood water from storms, etc. Note that where flood water is left unattended or comes in contact with organics or chemicals, etc the category may elevate to the next level.

A well created and executed plan by a qualified professional will include as a minimum;

- Appropriate safety measures and PPE for all technicians
- A detailed documentation of the project including category of flood water, ingress details and a damage profile and list of assets affected.
- A well-structured containment, isolation and discard removal plan must be executed to prevent adjoining area contamination and suppression of microorganism growth.
- Gross soiling and sanitisation will be required prior to substrate drying.
- Follow approved drying procedures specific to the substrate taking into account absorption /porosity characteristics, substrate reaction to wetting, etc
- Consideration may need to be taken for remediation of mould growth and disinfection.
- Post-remediation evaluation and verification is required.

### Beware Of Floodwater!

Floodwater should never be treated as normal rain water. It is critically important to take extra precautions when cleaning up flood affected properties, to ensure that you don't come into contact with contaminated water. When large volumes of water flood through an inhabited town, the water kills animals, collects rubbish and backs up sewer lines. The water that constitutes "flood water" commonly contains bio-hazards that can quickly make humans and animals very ill.

### Flood Restoration

**Biosan II, Thymox** and **Percide** achieve their primary role of destroying pathogens with amazing efficiency (see respective product information sheets). Whilst they share a large overlap in application, each biocide has unique characteristics which enable the restoration technician to achieve reliable results, every time with enviable efficiency.

**Deosan** and **Deozyme** employ the innovative ElimoTech chemistry to eliminating malodours caused by all categories of flood waters. **Deosan** is further enhanced with a biocide blend to destroy odour causing germs whilst **Deozyme** relies on a powerful quadbioenzyme blend to digest rank organics.

## Initial Wash Down

Flood disaster projects frequently require an initial wash down to remove organic loading, surface soiling and bulk mould growth.

These wash downs require solutions with the muscle to remove gross soiling and a biocide for the protection of technicians from dangerous pathogens and to suppress pathogen counts and mould growth.

- **Clean Force** is ideal for soiling and grime removal; Enzyme boosted powdered detergent tackles severe organic loads. Economical 1:65 to 1:100 dilution range
- **Thymox** is the ideal initial knock-down disinfectant; Completely non-hazardous, high performance disinfection activity. Safe on virtually all water cleanable surfaces
- **Biosan II** is often the product of choice where clean-up with pathogen control is required; Excellent cleaning detergency, wetting and emulsification. Economical in use with a 1:16 to 1:32 dilution ratio. Biocidal activity very resistant to organic loading. **Biosan II** residues will not interfere with any follow-up application of Percide.

## Pathogen Elimination

"See Mould Removal" section for treatment of mould growth.

A complete kill of bacteria, viruses and mould is required for successful flood restoration and mould remediation.

**Thymox, Biosan II** and **Percide** fulfil this function to perfection. Each has been tested to internationally recognised disinfectant micro-laboratory testing procedures under dirty conditions.

In most applications any of these products can be used, however a few points of note are;

- **Biosan II** microorganism kill requires a dwell time of 8 minutes and a dilution of 1:32.
- **Percide** microorganism kill is rapid, requiring only 60 seconds.
- **Thymox, Biosan II** and **Percide** are enhanced with super wetting agents for ultimate penetration of porous surfaces and organic load. **Thymox, Biosan II** and **Percide** residues are not toxic and can be safely left on most surfaces. **Thymox** is a botanical, natural and eco-label option and completely non-hazardous.

## Discolouration & Stain Removal

Mould growth and organic soiling creates unsightly and stubborn staining. **Percide** has inherent ability to oxidise and remove the toughest of mould and organic staining. **Percide** can be further boosted with Percide Boost which dramatically enhances it's destaining action. It is ideal for stain removal following an initial wash down.

**Percide** has several excellent benefits for this role;

- Outstanding destaining action against mould and organic discolouration.
- Provides powerful biocidal and mouldicidal action in this, often final, clean.

## Odour Neutralisation

See also the Actichem Odour Control / Elimotech section.

The key to odour neutralisation is to remove the odour source. The action of the **Biosan II** and **Percide** would normally achieve this during the flood restoration process. However, further odour control is often required to absorb air-borne and trapped mal-odour molecules and to provide a fresh replacement scent.

- **Deosan** has been specifically formulated with;Powerful anti-microbial activity which does not conflict with **Biosan II** or **Percide** residues. Elimotech odour absorption technology which eliminates mal-odours at a molecular level. Fresh, floral scent replaces mal-odours in the client's olfactory system.
- **Deozyme** has been specifically formulated with; Powerful quad-bioenzyme chemistry to digest severe, hard-to-reach and/or embedded organics. Elimotech odour absorption technology which eliminates mal-odours at a molecular level. Fresh, floral scent replaces mal-odours in the client's olfactory system.

# Bio-Hazard & Trauma

## III Chapter Three

Bio-Hazard, Trauma and Crime Scene applications present themselves in many different ways. An understanding of the principles of bio-hazards and disinfection is critical to enable versatility and an adaptable approach to each job.


9
10

# Bio-Hazard Decontamination

## Bio-hazard decontamination for a safer environment

It is strongly advised that technicians have completed training and/or are familiar with the IICRC S540 Standard for Trauma and Crime Scene Cleanup. This standard and the following guidelines assumes that all scenes have been released by law enforcement or regulatory agencies.

Bio-Hazard, Trauma and Crime Scene (collectively referred to as "bio-hazard" in this document) clean-ups all have a strong focus on make-safe disinfection and final eradication of all pathogens. Other key areas to address are organic load removal/cleaning, odour control and stain removal. A well created and executed plan by a qualified professional will include as a minimum;

- Appropriate safety measures and PPE for all technicians
- A detailed documentation of the project.
- A well-structured containment, isolation and discard/removal plan must be executed to prevent adjoining area contamination and suppression of microorganism growth.
- The use of TGA Listed Disinfectants for eradication of pathogens.
- The control and elimination of associated mal-odours
- Follow approved cleanup, destaining and disinfection procedures
- Post-remediation evaluation and verification is required.

Microorganisms, pathogens or simply "germs" are the microscopic cells or colony of cells which cause disease.

They are not the disease itself but are the microbe which causes the disease in a living being. Microorganisms are broadly divided into the following groups;

| | |
|---|---|
| **Prions** | Crutzfeldt-Jakob Disease |
| **Bacterial Spores** | Bacillus Subtillus |
| **Mycobacteria** | Tuberculosis |
| **Unenveloped/Non-Lipid Viruses** | Polio Disease, Parvo Virus |
| **Fungi (Mould & Yeast)** | Aspergillus, Penicillium, Candida |
| **Vegetative Bacteria** | S.Aureaus, E.Coli, P.Aeruginosa |
| **Enveloped Virus/Lipid Viruses** | SARS, Corona virus, HIV, Ebola |

**Most Resistant**

**Least Resistant**

The bacteria and viruses in the lowest two categories are those which cause the vast majority of illness in h healthcare facilities and among the public, and which will be encountered in bio-hazard applications. Hence the baseline pass for a TGA Listed Hospital Grade Disinfectant is kill efficacy in these lowest two categories.

The next two categories (Fungi and unenveloped viruses) are the next two most common categories and are often responsible for gastro outbreaks and animal related sickness. Many hospital grade disinfectants don't effectively tackle unenveloped viruses.

- **Biosan II** is a fifth generation quaternary ammonium compound based hospital grade disinfectant with TGA listing. It has been tested to effectively eradicate Fungi, Vegetative Bacteria and Enveloped Viruses.

- **Percide** is a sophisticated hydrogen peroxide formula with an optional boosting option with hospital grade disinfectant, TGA listing. (Testing is done without use of the **Percide Boost**). It has been tested to effectively eradicate Unenveloped Viruses, Fungi, Vegetative Bacteria and Enveloped Viruses.

- Both **Biosan II and Percide** achieve their primary role of destroying pathogens with amazing efficiency (see respective product information sheets).

  Whilst they share a large overlap in application, each biocide has unique characteristics which enable the restoration technician to achieve reliable results, every time with enviable efficiency.

- **Deosan and Deozyme** employ the innovative ElimoTech chemistry to eliminating mal-odours caused by all bacteria, rotting organics and bio-contaminants.

  **Deosan** is further enhanced with a biocide blend to destroy odour causing germs whilst **Deozyme** relies on a powerful quad-bioenzyme blend to digest rank organics.

SCAN FOR MORE INFO


## Bio-Decontamination Of Trauma Cleans

As each job presents unique challenges, versatility and adaptability is key. The main focus is on on make-safe disinfection and final eradication of all pathogens.

- **Understand the process of decontamination in a bio-hazard environment.**
- **Learn the correct chemistry and equipment to use**
- **Insights into how to achieve the best results.**

Learn from industry experts and gain access to exclusive resources that will help you excel in your field!

# Achieving Optimum Clean-Up Results

## Pathogen Elimination

A complete kill of pathogens is required for successful bio-hazard remediation. **Thymox, Biosan II** and **Percide** fulfill this function to perfection. Each has been tested to internationally recognised disinfectant micro-laboratory testing procedures under dirty organic conditions and are TGA listed. In most applications any of these products can be used, however a few points of note are;

- **Thymox** is completely safe on virtually all surfaces and safe around people and animals making it an ideal choice for an initial make-safe pathogen knock down treatment.
- **Percide** is the strongest biocide, destroying microorganisms to a minimum of 6 log reduction (99,9999% kill). Ensure Percide use when diseased persons or animals are involved.
- **Biosan II** requires accurate dilution. Ensure dilution of 1:16 for severe scenarios and a dilution of 1:32 for standard clean-ups.
- **Thymox, Biosan II** and **Percide** are enhanced with super wetting agents for ultimate penetration of porous surfaces and organic load.
- **Thymox, Biosan II** and **Percide** residues are not toxic and can be safely left on most surfaces.

## Wash Down

Wash down procedures often require solutions with the muscle to remove gross organics, fats and oils.

**Biosan II** is often the product of choice where cleaning with pathogen control is required;

- Excellent cleaning detergency, wetting and emulsification.
- Economical in use with a 1:16 to 1:32 dilution ratio.
- Biocidal activity very resistant to organic loading.
- Biosan residues will not interfere with if follow-up action of Percide is required.

**Clean Force** is ideal for all degrees of organic soiling, fats and oils;

- Powerful organic grime, fats and oily emulsification.
- Specialty enzyme inclusion tackles severe organic loads.
- Economical in use with a 1:65 to 1:100 dilution range.
- Can be teamed up with OxyBoost Plus for powerful stain removal and disinfection.

## Discolouration & Stain Removal

Unsightly discolouration and stubborn staining is part and parcel of biohazard clean-up. **Percide** has inherent-ability to oxidise and remove the toughest of mould and organic staining. **Percide** can be further boosted with **Percide Boost** which dramatically enhances it's destaining action. It is ideal for stain removal following an initial wash down.

**OxyBoost Plus** based on Sodium Percarbonate also exhibits unbeatable stain removal properties and is a popular inclusion for many technicians.

**Percide** has several excellent benefits for this role;

- Outstanding destaining action against organic discolouration,
- Provides powerful biocidal action.

**OxyBoost Plus** has several excellent benefits for this role;

- Outstanding destaining action against organic discolouration
- Provides powerful biocidal action
- Excellent action when used as an additive to wash down chemicals and detergents

## Odour Neutralisation

See also the Actichem Odour Control / Elimotech section. The key to odour neutralisation is to remove the odour source. The initial wash-down procedure would normally achieve this. However, further odour control is often required to absorb air-borne and trapped mal-odour molecules and to provide a fresh replacement scent.

**Deosan** has been specifically formulated with;
- Powerful anti-microbial activity which does not conflict with Biosan or Percide residues
- Elimotech odour absorption technology which eliminates mal-odours at a molecular level
- Fresh, floral scent replaces mal-odours in the client's olfactory system.

**Deozyme** has been specifically formulated with;
- Powerful quad-bioenzyme chemistry to digest severe, hard-to-reach and/or embedded organics
- Elimotech odour absorption technology which eliminates mal-odours at a molecular level
- Fresh, floral scent replaces mal-odours in the client's olfactory system.

**Deostor Spray** has been specifically formulated with;
- Powerful aerial disinfection technology to eliminate air-borne germs and mal-odours
- Elimotech odour absorption technology which eliminates mal-odours at a molecular level
- Fresh, floral scent replaces mal-odours in the client's olfactory system.

## Application Techniques

These Actichem solutions can be delivered using standard techniques;

**Sprayer**
- **Thymox, Biosan II, Percide, Deozyme** and **Deosan** are all suited for sprayer application.
- **Biosan II, Thymox** and **Deosan** are suited for use through cold/wet foggers

**Manual Application**
- **Biosan II, Percide, Thymox, Deozyme** and **Deosan** are suited for manual application by means of a sponge or cloth.
- **Biosan II Wet Wipes** are ideal for smooth surfaces.

## A Note On Surface Types

**Thymox, Biosan, Percide, Deozyme** and **Deosan** are safe for use on most water cleanable surfaces when used as directed.
However please note the following points;

**Carpet and fabrics**
- **Biosan II, Percide** and **Deosan** will negatively affect the stain block treatment of 5th generation nylon carpet. Of course, in many bio-hazard situations this treatment is already compromised.
- **Percide** contains hydrogen peroxide and pretesting must be done on suspect fibres or fabrics to prevent colour loss. The addition of **Percide Boost** will increase the possibility of colour loss on suspect fibres. If concerned dilute **Percide** 1:1 with water or use **Biosan II** or **Thymox.**

**Natural Stone**
- **Thymox, Biosan II, Deozyme** and **Deosan** are safe to use on and around all types of natural stone.
- **Percide** is mildy acidic and can dull shiny marble, limestone, travertine and granite. If natural stone is encountered mix **Percide** with **Percide Boost** – this mix is completely safe for use on fine stones.

**Floor boards and lacquered wood**
- **Thymox, Biosan II, Percide, Deozyme** and **Deosan** are safe for use on floorboards, coated wooden flooring and lacquered wooden furniture. However, pretesting is still advised as some coatings can be destabilised by biohazard and organic contamination.

**Structural timber and steel**
- **Thymox, Biosan II, Percide, Deozyme** and **Deosan** are safe for use on and around structural timber and steel.

**Plasterboard and painted surfaces**
- **Thymox, Biosan II, Percide, Deozyme** and **Deosan** are safe for use on all plasterboard and painted surfaces which are deemed to be water-cleanable.

# Fire Remediation

## IV Chapter Four

Actichem's fire restoration chemistry is expertly formulated to effectively penetrate and eliminate the stubborn, oily residues left behind by fire and smoke. This range priorities optimal performance while also taking care to protect both the substrate and the user, ensuring consistent and dependable results every time.

# Smoke

## Where there is fire, there is smoke.

According to a report by the Australian Medical Association, the bushfire smoke in 2019-2020 led to an estimated 417 premature deaths, 3,300 hospital admissions, 1,200 emergency department presentations for asthma, and 1,700 for cardiovascular problems.

### What Is Fire.

Fire itself is the rapid oxidation of a material in an exothermic reaction of combustion, releasing gases, heat and light. Understanding the basics of fire science will assist with successful remediation of smoke effected surfaces

Depending on the type and availability of fuel and oxygen, fires burn at different intensities and rates. The fuel source, the intensity of the fire, the available oxygen, air flow routes, how the fire was extinguished and the period of time since the fire all have significant effect on the type and quantity of smoke residue.

### What Is Smoke.

Well nearly always, smoke is the result of incomplete combustion of materials and is a complex mixture of numerous particles and gases, many of which are toxic. This is why smoke is dangerous to human health and most surfaces it comes into contact with.

Smoke contains both gases and micro particles, mostly carbon, often known as PM10 (particulate matter <10-micron diameter). Most smoke particles are less than 1 micron in size. This extremely small particle size coupled with the fact that the heat and raised humidity expands the pore size of many materials explains why smoke gets embedded so tenaciously into surfaces of all descriptions.

Fires burning at elevated temperatures will produce less smoke, but substrate pores will expand more, resulting in deeper ingress of smoke particles. Fires burning slower, at reduced temperatures produce significantly more smoke, with deposits often occurring mainly on horizontal surfaces.

### Smoke Damage

Horizontal surfaces are mostly subject to smoke particles depositing by gravity and are more successfully restored. Vertical and ceiling surfaces are subjected to higher heat and wind driven smoke with some being too severely soiled to successfully restore without damaging the substrate in the process. Smoke is also acidic in nature and can severely damage sensitive surfaces. This includes corrosion to metallic surfaces.

### Smoke Odours

The characteristic of any smoke odour is dominated by the fire intensity and the type of fire as mentioned earlier. The three fuel categories are described in more detail on the following page. The bulk of the odour can be overcome by natural ventilation, followed of course by removal of smoke deposits. However countless smoke particles become trapped in porous surfaces where they entered during the heat of the fire and are now trapped as the pores have contracted again. Often the odour source will not be visible, and it is important to have a thorough understanding of the science of air flow during a fire to ensure successful treatment of all odour sources.

# Fire Types

Structural fires and fires occurring within buildings can be broadly classified into three groups, although some fires could include a combination of more than one type. Understanding these fire types will assist in choosing the correct remediation process.

Different types of fires can produce smoke particles with varying levels of toxicity, depending on the materials burning and the conditions of the fire. Synthetic materials, such as plastics, can produce highly toxic smoke particles, while natural materials like wood and paper generally produce less toxic smoke.

However, any type of smoke can be harmful to human health, and it's important to wear the correct PPE and avoid exposure wherever possible. If necessary, don't hesitate to seek medical attention.

Even low-toxicity smoke can contain fine particulate matter and irritant gases that penetrate deep into the lungs, causing both immediate symptoms and delayed health effects.

This risk is significantly increased during extended remediation work, making proper controls, ventilation, and monitoring essential throughout the restoration process.

TYPE ONE

## Synthetic Fires

**Typical Fuel:** Plastics, synthetic clothing, hydrocarbon liquids (eg. Turpentine).
**Smoke Residue:** Black, dark in colour and readily smears.
**Other:** Particles highly charged and often from smoke webs.

TYPE TWO

## Protein Fires

**Typical Fuel:** Meat. Mostly a cooking event gone wrong.
**Smoke Residue:** Light, yellow/tan in colour. Often greasy.
**Other:** Normally a localised event, however some can spread to other rooms.

TYPE THREE

## Natural Fires

**Typical Fuel:** Paper products, timber, natural textiles (Cellulosic materials).
**Smoke Residue:** Powdery, grey to black deposits.
**Other:** Has a natural odour.


### Fire Resotration Made Easy

Discover how our fire restoration range solves cleaning challenges efficiently, boosting productivity with powerful, time-saving solutions.

- Discover our core range of fire restoration products, what they are best suited to and how to use them effectively.
- Learn how to remove soot & smoke deposits.
- Gain an understanding of boosting restoration products.

# Create a Professional Operation Plan

## Crafting a strategic & effective plan for professional results

Approaching fire and smoke restoration with a professionally formulated plan will eliminate unwanted headaches and the risk of turning smoke deposits into permanent stains. A plan will also maximise the chances of complete smoke odour neutralisation. It is highly recommended that only qualified technicians develop and execute a fire restoration plan.

### 1 Dry Removal

1. Turn off all ventilation systems and set-up containment systems as relevant.
2. Remove all debris and materials which are to be discarded.
3. Remove all items and collections which are to be cleaned separately or off-site.
4. Clean any air movement and HVAC systems which could continue to circulate the smoke laden particles around the area.
5. Vacuum all the affected surfaces thoroughly using a HEPA vacuum cleaner.

### 2 Deep Clean & Wet Removal

1. Wet clean all water cleanable surfaces.
2. Facilitate efficient drying.
3. Some surfaces may permit cleaning with mechanical means such as soda blasting.

### 3 Removal Of Airborne Particles & Odour Control

1. Operate a HEPA air scrubber to remove air-borne particles
2. Fog / mist the area with professional odour molecule technology or treat with ozone.

### 4 Seal Porous Surfaces

1. Some surfaces may require sealing with a stain-block paint.

## Removing Smoke Odour

Smoke Odour removal can be a challenging task, but a professional, systematically scoped out plan will produce impressive results.

**The first key step in Smoke Odour Neutralisation is to be thorough in the removal of the smoke residues.** Once smoke restoration cleaning is complete, the remaining smoke odours will mostly be invisible and will be characterised by the following factors;

### The Fuel Type

- Synthetic fires create an acrid, burnt-plastic-like odour.
- Protein fires have a very unpleasant pungent odour.
- Natural fires have mostly a characteristic wood or paper burning odour.

### High Heat

High-intensity fires are more likely to create deeply embedded odour molecules in natural surfaces like timber and stone. However, the actual smoke volume is less.

### Volume of Water Used

Where significant volumes of water have been used on a hot fire, the humidity rises dramatically and also expands the pores of natural surfaces allowing the occurrence of deeply embedded odour molecules.

# Removing Residue

## Plasterboard

Painted plasterboard must be assessed for structural integrity. Smoke damage from high temperature fires may not be removable. Smoke deposits should as far as possible be removed dry where possible. Wet cleaning is effectively achieved using **Fire Fix** or **Fire Restore** detergent and a **System 7 Fire Sponge**. Do not over-wet the substrate.

## Structural Timber

This includes wall studs, rafters, plywood, particleboard and other timber with an unfinished surface. These surfaces are particularly prone to deeply embedded smoke particles due to the expansion and contraction of their porous surfaces. The super wetting power of Actichem fire restoration detergents provides exceptional results. Deeply embedded residues and smoke odour molecules are effectively oxidized by the addition of **Oxyboost Plus** to the fire restoration detergent.

## Carpet & Textiles

Carpets and textiles benefit from special attention being paid to smoke removal by dry vacuum. Further remediation should be done using **Fire Fix** in a wet extraction clean process. **Fire Fix** is specifically formulated for cleaning fibres, fabrics and soft furnishings. The addition of **Oxyboost Plus** will significantly boost cleaning results and odour source removal.

Professional opinion is advised when dealing with natural and/or delicate fibres. Water-cleanable garments should be cleaned in a 1:50 mix of **Fire Fix**. **Oxyboost Plus** can be added at 10g/Lt. Heavily soiled garments may require several repeat washes. Dry clean only garments and drapes should be referred to a dry-cleaning specialist.

## Concrete, Masonry & Natural Stone

These building materials are particularly prone to deeply embedded smoke particles due to the expansion and contraction of their porous surfaces. Some resilient surfaces can be remediated using mechanical means such as soda blasting. Concrete, masonry and natural stone is effectively restored, without surface damage, by the use of Actichem **Fire Restore**. The addition of **Oxyboost Plus** in this operation will not only dramatically lower odour source molecules but will overcome the occurrence of "shadowing" where embedded particles have not been removed. Severe staining should be treated with a blend of 30g **Oxyboost Plus** 30g/Lt **Fire Restore** per litre hot water.

## Finished Timber

Finished timber includes wooden floorboards, doors and frames, window frames and furniture. Wood of this nature is best cleaned using a cloth or sponge and **Fire Fix** which contains no caustics or harsh solvents. Keep the operation as dry as possible. Special care is required as the wood coating can be compromised by the fire activity. Always wipe dry all wood cleaning and ensure quick drying is facilitated.

## Metal Objects and Surfaces - window frames, ornaments, household items.

Most aluminum, bronze, stainless steel and metal items will be effectively restored by washing with a solution of **Fire Fix**. Rinse well with water and follow with a 1:1 water + ethanol (methylated spirits) mix. This will permit fast drying without streaks or spotting.

## Tiles and Glass.

Ceramic and porcelain tiles and glass are typically low in porosity and are effectively cleaned using **Fire Restore.** Always rinse well with clean water.


# Fire Restore

**Fire restoration cleaner for hard resilient surfaces**

pH: 12
ALKALINE

**Application:** Fire Restore is designed to break down & remove oily soot & smoke deposits left after fires, particularly surfaces like tiles, concrete, masonry, & natural stone.

**Features:** Its powerful formula penetrates deep into porous surfaces, effectively removing even the toughest residues, restoring materials to a like-new appearance.

**Solution:** It not only cleans but also aids in odour control by eliminating soot and smoke deposits, whilst offering powerful cleaning for grime on hard surfaces.

**Dilution:** 1:10 to 1:20

| PRODUCT FRAGRANCE | SAFETY INFO | SURFACE APPLICATION |
|---|---|---|
| Light Forest Pine | Skin & Eye Irritant | Hard Surfaces |

SCAN FOR MORE INFO

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# Fire Fix

**Fire restoration cleaner for carpets, fabric & delicate surfaces**

pH: 12
ALKALINE

**Application:** Is formulated to remove oily soils, carbon, soot, and fire residues from delicate and resilient surfaces, including fabrics, wood, and plasterboard.

**Features:** Its "smart chemistry" technology is solvent-free and caustic-free, making it both gentle and effective on various surfaces, from soft furnishings to painted walls.

**Solution:** Fire Fix tackles cleans soot and fire residues without harsh chemicals, providing a safe yet powerful cleaning solution for a wide range of materials.

**Dilution:** 1:32 to 1:64

| PRODUCT FRAGRANCE | SAFETY INFO | SURFACE APPLICATION |
|---|---|---|
| Mild, Fresh Lemon | Skin & Eye Irritant | Soft Surfaces |

SCAN FOR MORE INFO

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# Oxyboost Plus

**Oxygenated additive for cleaning, destaining & deodorising**

pH: 8
ALKALINE

**Application:** Is designed as a super-concentrated oxidising additive for cleaning solutions, used in stain removal and deodorising after fire damage.
**Features:** It provides powerful oxidising action to remove tough soot stains, smoke shadowing, and micro-smoke odour particles, and is safe for use on both hard and soft surfaces.
**Solution:** Oxyboost Plus enhances Fire Fix or Fire Restore cleaning solutions by eradicating smoke odours and tough soot stains, restoring surfaces like carpets, metal, and ceramic ornaments.
**Dilution:** 10 - 20g per Lt

| PRODUCT FRAGRANCE | SAFETY INFO |
|---|---|
| No Odour | Skin & Eye Irritant |

SCAN FOR MORE INFO

# System 7 Pad

**High performance fire restoration cleaning pads. Designed to be used wet.**

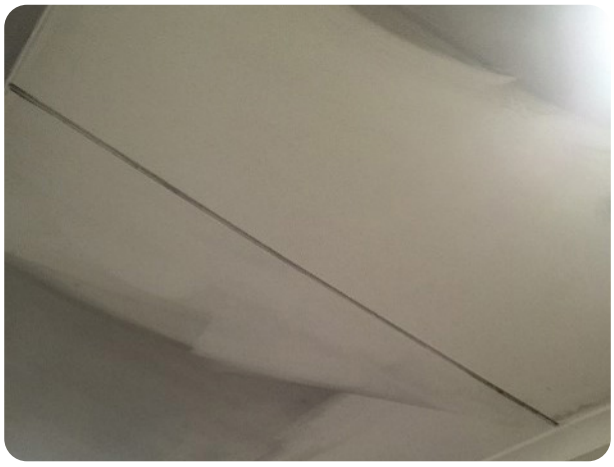
**Application:** System 7 Pads are advanced cleaning sponges specifically designed for removing soot and smoke residues, particularly effective when used in conjunction with Fire Restore or Fire Fix. They excel in restoring surfaces without the risk of moisture damage.

**Features:** These reusable pads are detergent and odour-free. They offer outstanding results on painted surfaces, natural stone, ceramics, and porcelain. Their long lifespan and effectiveness significantly reduce labor and chemical use, and they can be rinsed and reused multiple times.

**Solution:** System 7 Pads efficiently clean soot and smoke residues, restoring stained surfaces like tiles, stone, and painted materials to their original condition. They provide a fast and cost-effective solution for fire restoration, making surfaces shine and saving both time and resources.

SCAN FOR MORE INFO

## Fire Restore & System 7 Pad in use



## The Power Of A Booster

### Boosting Fire Fix or Fire Restore for fire stain removal

15g of Oxyboost Plus to 1Lt of ready-to-use solution of Fire Fix or Fire Restore.
(1 scoop = 30g)

# Smoke & Soot Removal

## Walls Resilient Flooring & Plastering

All methods and procedures should be according to the IICRC Fire and Smoke Restoration Technician Course and BSR/IICRC 700 series.

### Preparation

- Scope out area to be treated and ensure all is safe and structurally sound. Remove any items or unsalvagable materials.
- Low pressure spray **Deostor Fire** to suppress smoke odours while work proceeds.
- Set up any required containment systems and protection material for items not being cleaned in this process.
- Using a HEPA vacuum and/or **System 7 Pad**, remove as much loose smoke soiling as possible. For natural fibres, this should remove the majority of soiling.

### Directions

1. If mechanical removal (eg. Soda blasting) has been recommended, perform this now.
2. Re-vacuum all surfaces in the containment area using a HEPA vacuum.
3. Prepare solution to be used
   - **Fire Restore** (1:9): add 100mL/litre of water.
   - Optional: Add **Oxyboost Plus** (20g/litre of above solution) for additional smoke stain removal and odour elimination.
   - Optional: Add **Deostor** (10-20mL/ litre of above solution) for additional odour control. For natural fire types (wood, paper) and minor soiling, use dilutions of 25-50mL per litre.
4. Apply the solution to a limited areas at a time. Apply using a sprayer, mop or **System 7 Pad**. Note: Always work from the bottom up, to avoid run marks.
5. Allow a minimum of 10 minutes dwell time.
6. Agitate and wash area
   - For smooth surfaces use a **System 7 Pad**. As the Pad becomes heavily soiled, rinse in clean water or **Fire Restore** solution.
   - For textured or rough surfaces use a medium stiff brush.
7. Rinse well with clean water. Always maintain a 'wet edge.' See below.
8. Proceed with odour control process (page 14)

### Important Notes

The instructions provided are not intended to be comprehensive and are limited to the chemical use aspects of fire and smoke restoration. It is assumed that the remediation professional is suitably trained and competent in fire and smoke restoration methods, including containment, air filtration, HEPA vacuuming, fogging techniques, and building science.

For all projects, appropriate personal protective equipment must be worn, and all safety data sheets and technical documentation for chemical products must be read, understood, and strictly followed, including directions for use and product limitations.

**Maintain a 'Wet Edge'**
When wet cleaning smooth or textured surfaces using Fire Restore or Fire Fix always maintain a wet edge. A wet edge is the edge of the cleaning operation where uncleaned and clean meet. If cleaning has to stop for some reason, do not rinse right up to the edge, but leave a 100mm edge unrinsed. When cleaning resumes this will clean in contrast to leaving a start/stop line which can be very difficult to remove.

# Carpet, Soft Furnishings and Finished Timber

## Preparation

- Scope out area to be treated and ensure all areas are safe and structurally sound. Remove items and unsalvageable materials.
- Low pressure spray **Deostor Fire** to suppress smoke odours while work proceeds.
- Set up any required containment systems and protection material for items not being cleaned in this process.
- Using a microfibre cloth or **System 7 Pad** and/or HEPA vacuum remove as much dry smoke soiling as possible. Carpets, drapes and fabrics will require thorough vacuuming.
- Severely smoke soiled carpets may not be restorable and will require replacing. For natural fires you should be able to remove the vast majority of dry soiling.

## Directions

1. Prepare solution to be used
   - **Fire Fix** - Add 100mL per litre of water (1:9).
   - Add **Deostor** - 10-20mL per litre of the above solution for additional odour control.
   - For natural fire types (wood, paper) and minor soiling, dilutions of 25-50mL can be used.
2. Apply solution to limited areas at a time. Apply using a sprayer, mop, cloth or **System 7 Pad**. When treating carpets apply as you would a carpet prespray.
3. Allow a minimum of 10 minutes dwell time.
4. Agitate with a medium stiff brush or cloth.
5. Rinse well with clean water.
   - Carpets: Extract rinse with **Rinse Pro**.
   - Upholstery & Drapes: Extract rinse with **Rinse Pro**
   - Wooden Floors: Extract with suited equipment and rinse with clean water.
   - Items: Rinse well with clean water.

## Important Notes

Water washable garments and soft items can be soaked in a solution of **Fire Fix** (dilute 1:20) for 30-60 minutes and then laundered as usual.

Add 10g **OxyBoost Plus** per litre to enhance stain removal and odour elimination. **OxyBoost Plus** can also be added to the machine wash. Add 30-60g **Oxyboost Plus** / 22Lt water wash volume (7.5kg washing machine). Garments and soft items may require repeat washes. Dryclean items and delicates should be referred to a professional dry cleaner.


## Cleaning Soot With A System 7 Pad

Using the System 7 Fire Pad will significantly help you cut down the time and effort put in to cleaning the substrate.

**The benefits of System 7 Pads are:**

- **Less time spent cleaning**
- **Less chemical used**
- **Cleaner substrates with less effort**
- **The substrate left drier after cleaning**

Make your life easier today!

# Fire Restoration Guide

## Ultimate product guide for fire restoration




| | **Fire Fix**<br>Fire restoration detergent | **Fire Restore**<br>Fire restoration detergent | **Oxyboost Plus**<br>Oxygenated additive |
|---|---|---|---|
| **Function** | Smoke and soot residue removal | Smoke and soot residue removal | Additive for restoration detergent |
| **Dilution** | 1:10 - 1:20<br>50-100mL per Lt | 1:10 - 1:20<br>50-100mL per Lt | 15g/1Lt ready -to-use solution<br>(1 scoop = 30g) |
| **Soot, grime removal** | ★★★★★ | ★★★★★ | ★★★ |
| **Stain removal** | ★★★ | ★★★ | ★★★★★ |
| **Odour control** | ★★★ | ★★★ | ★★★ |
| **Area of Use** | | | |
| **Concrete, masonry, natural stone, tiles, timber** | Yes | Yes<br>(Ideal) | Yes<br>(Ideal) |
| **Plasterboard, ceilings, painted structures** | Yes<br>(Ideal) | Yes<br>(Ideal) | Yes<br>(Ideal) |
| **Carpets, upholstery and textiles** | Yes<br>(Ideal) | No | Yes<br>(Take care on delicate fabrics) |
| **Garments, soft toys, delicate ornaments, etc.** | Yes<br>(Ideal) | No | Yes<br>(Take care on delicate fabrics) |
| **Application Method** | | | |
| **Cloth or sponge** | Yes | Yes | Yes |
| **Pressure sprayer** | Yes | Yes | Yes |
| **Cold/Wet fog** | No | No | No |
| **Thermal fog** | No | No | No |




| **Deostor Fire**<br>(Floral/Citrus)<br>Odour control additive | **Odourtak W**<br>Water based odour control fog | **Odourtak SV**<br>Solvent based odour control fog | **System 7 Hand Pad**<br>Fire restoration Cleaning Pad |
|---|---|---|---|
| Additive for restoration detergent | Odour neutralisation solution for fogging | Odour neutralisation solution for fogging | For use with restoration detergent |
| 1:25 - 1:50<br>20-40mL per Lt | Use undiluted | Use undiluted | N/A |
| N/A | N/A | N/A | ★★★★★ |
| N/A | N/A | N/A | ★★★★★ |
| ★★★★ | ★★★★★ | ★★★★★ | N/A |
| | | | |
| Yes | Yes | Yes | Yes<br>(Smooth surfaces only) |
| Yes | Yes | Yes | Yes<br>(Ideal) |
| Yes | Yes | Yes | N/A |
| Yes | N/A | N/A | Yes<br>(Take care on delicate fabrics) |
| | | | |
| Yes | No | No | N/A |
| Yes | No | No | N/A |
| Yes | Yes | No | N/A |
| No | Yes | Yes | N/A |

# Odour Neutralisation

## Chapter Five

Odour neutralisation is crucial in disaster restoration, addressing persistent smells from smoke, water damage, and mould. Over 80% of fire-damaged properties experience lingering smoke odours, and 60% of water-damaged homes face mould-related smells. Advanced techniques, treatments and specialised cleaning agents, neutralise these odours at the molecular level, improving air quality and restoring comfort.

# Smoke Odour Removal

## Odour neutralisation following smoke deposit removal

All methods and procedures should be according to the IICRC Fire and Smoke Restoration Technician Course and BSR/IICRC 700 series.

The instructions provided below are not designed to be comprehensive but are provided with a focus on the chemical use component of a fire and smoke odour control.

It is assumed that the remediation professional undertaking the project is competent in fire and smoke restoration processes and in the use of containment systems, air scrubbers, HEPA vacuuming, fogging equipment and in the science of building structures. It is assumed that thorough soot and smoke residue removal has been completed.

### Moderate to Major Smoke Odour

1. Scope out the area to be treated. Set up any required containment systems and protection material for items not being treated in this process. Turn off HVAC systems and close off natural ventilation.
2. Choose the correct **Odourtak** fragrance based on fire/smoke type.
3. Use **Odourtak WB** (water based) for internal and inhabited area, and **Odourtak SV** (solvent based) for areas such as roof cavities and crawl spaces.
4. For fogging use 5mL - 15mL of **Odourtak WB/SV** for approximately 10m3 air space. Do not dilute.
5. Allow the area to remain closed up for 30-60 minutes once fogging has been completed.

### Localised & Minor Smoke Odour Scenario

1. Scope out the area to be treated. Set up any required containment systems and protection material for items not being treated in this process. Turn off HVAC systems and close off natural ventilation.
2. Prepare the solution to be used. Choose the correct **Deostor** fragrance based on fire/smoke type, this is detailed on page page 25.
   - **Deostor Citrus/Floral/Extreme/Organic** - add 25mL per litre of water (1:40).
3. Spray apply the ready to use solution throughout the area using a low-pressure sprayer - use the fine spray nozzle.
4. Wait 30 minutes before allowing ventilation of the area to ensure a complete neutralisation of the mal-odour.

### Important Note

Surfaces and items that could be affected by moisture damage should be covered or removed prior to spraying or fogging.

## When To Seal

Some surfaces will benefit from applying a stain-block coating as a last step in the fire restoration process. The secret is to know when to seal and when it's not required. Various porous substrates, especially some timbers, expand dramatically during the fire which allows the smoke particles to deeply embed. When restoration is undertaken the pores have contracted again and these micro-smoke particles are trapped and not accessible.

However, humid hot weather may cause the pores to expand enough to allow the odour from these particles to permeate the atmosphere. A stain-block coating in these situations would provide a sure fix to this challenge. Stubborn smoke odour situations can also be solved using a seal.

## When To Use An Odour Neutraliser

There are two main ways to use an odour neutraliser in disaster restoration, the most common one is to use the odour neutraliser as a stand alone post treatment after the restoration has been completed. This process has been detailed on the previous page. The other way to use an odour neutraliser is to combined it in the initial wash down, by adding it to the chemicals used in this step.

## Stand Alone Vs Combination Methods

Both the stand alone method and the combination method of odour neutralisation result in a thorough neutralisation of the mal-odour. However, they are suited to very different application with each having their own benefits.

### Stand Alone Method

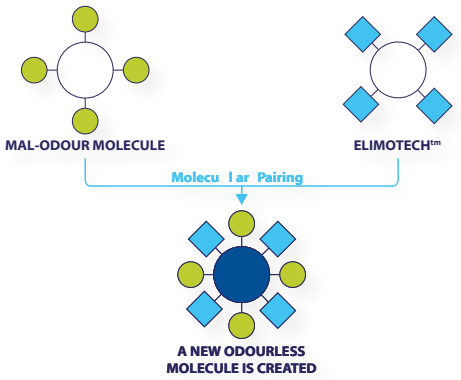
- **Resets olfactory senses** - Leaving a completely new smell at the end of the restoration process, resets the olfactory senses by changing the default smell the brain smells when walking in the room.
- **Ideal for larger scenarios** - By using the stand alone method, the odour neutralisation technology is not diluted by organic matter ensuring an increased strength of the solution and a guaranteed neutralisation of all the mal-odour molecules.


### Combination Method

- **Reduces step** - For smaller scenarios when odour neutralisation isn't the focus, combining this step with the initial wash down will give you excellent results, whilst reducing your labour time.
- **Removing the mal-odurs at the source** - This method allows the odour neutraliser to eliminate the mal-odour molecules at the source, containing the odour thus resulting in a reduce post treatment. This is especially useful in major scenarios where mal-odours will increase during the restoration process.

# Odour Control

## Innovative chemistry for total odour control




Bad odours ruin perception, reputation and profits. Eliminating them can be a tougher task than meets the eye. Actichem's comprehensive suite of odour control solutions provides the professional remediation technician with the best of mal-odour elimination chemistry.

## Elimotech

### Innovation for Total Odour Control

Even after an odour source is removed and eradicated by oxidation, disinfection or enzymatic action, stubborn mal-odour molecules remain suspended in the air, trapped in porous surfaces and fabric yarns. These can include sulphide, mercaptans, keratins and cadaverine and putrescence. **The Elimotech chemistry, eliminates these obnoxious compounds at a molecular level.**

### How Elimotech "molecular-pairing" works

Elimotech neutralises mal-odour molecules using molecular-pairing technology. The natural-based Elimotech molecules react with mal-odour molecules and form a new, neutral, odourless molecule which cannot be reversed.

### The Process is as Important as the Product

To be confident of success it is crucial to follow proven methodology when eradicating odours. This always starts with removing maximum amount of the odour source. Then the residual mal-odour molecules need to be eradicated and finally a replacement scent to reset the olfactory senses.

STEP ONE

#### Remove The Odour Source

**Smoke**
Remove with vacuum, specialty detergents & oxidizers.

**Organics**
Remove with biocides or bacteriologic enzymes.

STEP TWO

#### Neutralise The Mal-Odour Molecule

elimotech

Elimotech technology provides unique, molecule-pairing technology for complete neutralisation.

STEP THREE

#### Provide A Replacement Scent

Elimotech provides a fresh range of scents designed to reset the olfactory senses.

## Deostor Citrus

Designed for smoke odours caused by fires of protein, paper & timber.

## Deostor Floral

Designed or smoke odours caused by plastic and synthetic fires.

## Deostor Extreme

Designed for extreme odours eg. Tobacco & curry.

## Deostor Organic

Designed for organics odours eg. Rotting organic matter.

# ADD TO


# Boosters

### Boosting with Actichem's Deostor Products for added Odour Control

The Deostor Range can be added to Actichem products including Fire Fix, Fire Restore, Performance Gold, Clean Force & Biosan II.

LIGHT DUTY
1:100 dilution

HEAVY DUTY
1:25 dilution

Please contact Actichem before adding Deostor to other products not mentioned above.

## Odour Control Essentials.

Watch the free replay of the Odour Control Essentials webinar to master effective odour treatment techniques solutions.

SCAN FOR MORE INFO

# Odour Control Products

## Odour neutralisation in restoration processes


### Deostor Fire

**(Citrus & Floral)**
**Soot, smoke & fire odour control**

elimotech

**Application:** Deostor Fire is designed to neutralise soot and smoke odours, ideal for use as a stand-alone treatment or as an additive to fire restoration detergents like Fire Restore and Fire Fix.

**Features:** Powered by Elimotech, it quickly neutralises smoke and soot odours at a micro-molecular level, ensuring permanent elimination. Available in Citrus or Floral scents, it is safe for use on most water cleanable surfaces.

**Solution:** Deostor Fire tackles stubborn smoke odours from timber, paper, protein, and synthetic fires, leaving the treated area with a fresh, clean scent.

**Dilution:** 1:10 to 1:20

SCAN FOR FIRE CITRUS

SCAN FOR FIRE FLORAL


### Odourtak W (Water based)

**Thermal fogging odour control solution - Citrus & Floral**

elimotech

**Application:** A water-based odour control product for thermal fogging, designed to neutralise smoke and soot odours in inhabited spaces.

**Features:** Powered by Elimotech, it neutralises odours at a micro-molecular level and deeply penetrates surfaces. Available in Citrus for timber/paper fires and Floral for plastic/synthetic fires.

**Solution:** Odourtak W effectively eliminates persistent smoke odours, making it ideal for thorough odour control during fire restoration.

**Dilution:** 1:5 to 1:20

SCAN FOR FIRE CITRUS

SCAN FOR FIRE FLORAL


### Odourtak SV (Solvent)

**Thermal fogging odour control solution - Citrus & Floral**

elimotech

**Application:** Odourtak SV is a solvent-based odour control product for thermal fogging, designed to neutralise strong smoke and soot odours in non-inhabited spaces.

**Features:** Utilises Elimotech chemistry for rapid, micro-molecular odour neutralisation. Available in Citrus for timber/paper fires and Floral for plastic/synthetic fires.

**Solution:** Odourtak SV effectively eliminates persistent smoke odours, ideal for use in attics, sub-floors, and stripped-out buildings.

**Dilution:** 1:4 to 1:20

SCAN FOR FIRE CITRUS

SCAN FOR FIRE FLORAL

- Citrus is best for smoke odours caused by protein, paper and timber fires.
- Floral is best for smoke odours caused by plastic and synthetic fires.


## Deosan

**Anti-microbial odour neutraliser for severe applications**

elimotech

**Application:** Deosan is an anti-microbial odour neutraliser designed for severe malodour situations, effectively addressing odours from organic waste, urine, sewage, pets, and flooding.

**Features:** Its powerful combination of biocides and high-activity odour neutralisers quickly destroys odour-causing bacteria while absorbing and neutralising airborne odours, leaving behind a fresh scent.

**Solution:** Deosan provides the quickest and most effective way to restore healthy indoor air quality, making it suitable for use on both hard and soft surfaces.

**Dilution:** 1:10 to 1:40

SCAN FOR MORE INFO


## Deozyme

**Enzyme based odour neutraliser**

elimotech

**Application:** Deozyme is an odour neutraliser and enzyme digester formulated with four active enzymes, designed to eliminate odours from hard-to-reach areas by treating them at the source.

**Features:** It combines Bacillus organisms with powerful quad-enzyme action, effectively digesting organic odour sources and neutralising airborne malodours.

**Solution:** Deozyme instantly eliminates strong odours from decaying matter, sewage, and human or animal remains, leaving a clean, sanitary scent in its wake.

**Dilution:** 1:16 to 1:32

SCAN FOR MORE INFO


## Deostor Spray

**Aerial spray for odour control**

elimotech

**Application:** Deostor Spray is designed for aerial spraying to neutralise odours in the air and on surfaces. Ideal for misting small areas and treating items like upholstery and carpets.

**Features:** Powered by Elimotech, Deostor Spray neutralises odours at a micro-molecular level and is enhanced with chemistry for targeting airborne viruses. Safe for use on water-cleanable surfaces, it leaves a fresh scent.

**Solution:** Deostor Spray quickly eliminates tough airborne and surface odours from sources like rotting organics, waste, and fire.

**Dilution:** Ready to use - 1:30

SCAN FOR MORE INFO

# Odour Neutralisation

| Odour Source | Application | Recommended Products |
|---|---|---|
| Routine Cleaning | Carpet & Soft Furnishings | Deofresh - Citrus, Floral or Tutti Frutti |
| | Walls, Floors & Hard Surfaces | Deofresh - Citrus, Floral or Tutti Frutti |
| Airborne Odours | Aerial Pressure Spray | Deostor Spray |
| | ULV Wet/Cold Fogging | Deostor Extreme or Deostor Organic |
| | ULV Thermal Fogging | See "Fire and Smoke" |
| Animal Odour | Carpet & Soft Furnishings | Deostor Extreme |
| | Walls, Floors & Hard Surfaces | Deostor Extreme |
| | Hard & Soft Surfaces | Deozyme |
| | ULV Wet/Cold Fogging | Deostor Extreme |
| Cadaverine | Carpet & Soft Furnishings | Deostor Extreme |
| | Walls, Floors & Hard Surfaces | Deostor Extreme |
| | Hard & Soft Surfaces | Deozyme |
| | ULV Wet/Cold Fogging | Deostor Extreme |
| Curry | Carpet & Soft Furnishing | Deostor Extreme |
| | Walls, Floors & Hard Surfaces | Deostor Extreme |
| | ULV Wet/Cold Fogging | Deostor Extreme |
| Faeces | Carpet & Soft Furnishing | Deostor Organic |
| | Floors & Hard Surfaces | Deostor Organic |
| | Hard and Soft Surfaces | Deozyme |
| Fish | Carpet & Soft Furnishing | Deozyme |
| | Floors & Hard Surfaces | Deozyme |
| | ULV Wet/Cold Fogging | Deostor Extreme |
| Mould & Mildew | Carpet & Soft Furnishings | Biosan II / Percide / Mould Remover |
| | Walls, Floors & Hard Surfaces | Biosan II / Percide / Mould Remover |
| Rotting Organic Matter | Carpet & Soft Furnishings | Deostor Organic |
| | Floors & Hard Surfaces | Deostor Organic |
| | Floors & Hard Surfaces | Deozyme |
| | ULV Wet/Cold Fogging | Deostor Extreme or Deostor Organic |
| Smoke (Plastic & Synthetic material) | Carpet & Soft Furnishings | Deostor Fire (Floral) |
| | Walls, Floors & Hard Surfaces | Deostor Fire (Floral) |
| | ULV Cold Fogging - Inhabited Spaces | Odourtak W - Floral |
| | ULV Thermal Fogging - Uninhabited Spaces | Odourtak SV - Floral |
| Smoke (Protein & wood fire) | Carpet & Soft Furnishings | Deostor Fire (Citrus) |
| | Walls, Floors & Hard Surfaces | Deostor Fire (Citrus) |
| | ULV Cold Fogging - Inhabited Spaces | Odourtak W - Citrus |
| | ULV Thermal Fogging - Uninhabited Spaces | Odourtak SV - Citrus |
| Tobacco | Carpet & Soft Furnishing | Deostor Extreme |
| | Walls, Floors & Hard Surfaces | Deostor Extreme |
| | ULV Wet/Cold Fogging | Deostor Extreme |
| Urine | Carpet & Soft Furnishings | Deozyme |
| | Carpet & Soft Furnishings | Deosan |
| | Carpet & Soft Furnishings | Deostor Organic |
| | Carpet & Soft Furnishings | Pet & Flood |
| | Floors & Hard Surfaces | Deozyme |
| | Floors & Hard Surfaces | Deosan |
| | Floors & Hard Surfaces | Deostor Organic |
| | Floors & Hard Surfaces | Pet & Flood |

| Dilution | Mix With |
|---|---|
| 40-80mL/10Lt RTU Solution | Prespray or Rinse Agent (Do not mix with Polyprop Plus |
| 40-80mL/10Lt RTU Solution | Hard Surfaces Cleaning Detergent |
| Ready-To-Use | n/a |
| 10mL/Lt | Water Only |
| | |
| 10-30mL/Lt RTU Solution | Prespray, Rinse Agent or Laundry Detergent |
| 10-30mL/Lt RTU Solution | Hard Surface Cleaning Detergent |
| 30-60mL/Lt | Water Only |
| 10mL/Lt | Water Only |
| 10-30mL/Lt RTU Solution | Biosan II, Prespray, Rinse Agent or Laundry Detergent |
| 10-30mL/Lt RTU Solution | Biosan II or Hard Surface Cleaning Detergent |
| 30-60mL/Lt | Hard & Soft Surfaces |
| 10mL/Lt | ULV Wet/Cold Fogging |
| 10-30mL/Lt RTU Solution | Prespray Detergent or Water |
| 10-30mL/Lt RTU Solution | Hard Surface Cleaning Detergent |
| 10mL/Lt | Water Only |
| 10-30mL/Lt RTU Solution | Biosan II, Prespray, Rinse Agent or Laundry Detergent |
| 10-30mL/Lt RTU Solution | Biosan II or Hard Surface Cleaning Detergent |
| 30-60mL/Lt | Water Only |
| 30-60mL/Lt | Water Only |
| 30-60mL/Lt | Water Only |
| 10mL/Lt | Water Only |
| Follow IICRC approved mould remediation methods | |
| Follow IICRC approved mould remediation methods | |
| 10-30mL/Lt RTU Solution | Biosan II, Prespray, Rinse Agent or Laundry Detergent |
| 10-30mL/Lt RTU Solution | Biosan II or Hard Surface Cleaning Detergent |
| 30-60mL/Lt | Water Only |
| 10mL/Lt | Water Only |
| 10-30mL/Lt RTU Solution | Fire Fix, Prespray or Laundry Detergent |
| 10-30mL/Lt RTU Solution | Fire Restore or Fire Fix |
| Ready-To-Use | Do not mix with any other chemical |
| Ready-To-Use | Do not mix with any other chemical |
| 20-40mL/Lt Water | Fire Fix, Prespray or Laundry Detergent |
| 20-40mL/Lt Water | Fire Restore or Fire Fix |
| Ready-To-Use | Do not mix with any other chemical |
| Ready-To-Use | Do not mix with any other chemical |
| 10-30mL/Lt RTU Solution | Prespray Detergent or Water |
| 10-30mL/Lt RTU Solution | Hard Surface Cleaning Detergent or Water |
| 10mL/Lt | Water Only |
| 30mL/Lt | Water Only |
| 50-100mL/Lt | Water Only |
| 10-30mL/Lt RTU Solution | Biosan II, Pet & Flood, Carpet Prespray or Rinse Agent |
| 200-500mL/Lt | Water - boost with Deostor Organic or Deostor Extreme |
| 30mL/Lt | Water Only |
| 50-100mL/Lt | Water Only |
| 10-30mL/Lt RTU Solution | Biosan II, Pet & Flood or Hard Surface Detergent |
| 200-500mL/Lt | Water - boost with Deostor Organic or Deostor Extreme |

# Meth Lab Clean-Up

## VI Chapter Six

Methamphetamine labs can leave behind toxic chemicals and contaminants that can pose serious health risks to occupants and future inhabitants of the affected property. To effectively decontaminate a meth lab site, specialised cleaning products and techniques are required.

# Meth-Lab Decontamination

## Comprehensive steps for safe meth lab decontamination

According to the Australian Government Standards methamphetamine readings on inside surfaces that are greater than 0.5 micrograms (mg) per $m^2$ are considered unacceptable. It is recommended for levels exceeding 15mg the Methsan Prewash is to be used before the main wash and decontamination.

It is well established that the residual contamination resulting from the manufacture of illicit drugs in clandestine drug laboratories poses a significant risk to both human health and the environment. The challenges presented by these criminal activities are often highly complex. Due to the covert nature of these operations, a wide variety of chemicals and production methods are employed, resulting in numerous contamination scenarios that remediation technicians must address.

It is strongly advised that technicians have completed training and/or are familiar with guidelines available from government and industry authorities. It is assumed that all scenes have been released by law enforcement or regulatory agencies.

**Remediation of Property Contaminated by Clandestine Drug Manufacture & Use.**
Actichem's MethSan system has been professionally formulated to target the stubborn residues created by the manufacture and use of methamphetamine and other illicit drugs.

Depending on the ingredients used, the cooking process, the location of the area in relation to the drug activity area and the length of time of drug activity, a single property may have a wide variance of contamination levels.

The MethSan system caters for this and provides for maximum efficiencies in decontamination for all scenarios.


### Bio-Decontamination Of Prison Cells

As each job presents unique challenges, versatility and adaptability is key. The main focus is on on make-safe disinfection and final eradication of all pathogens.

- **Understand the process of decontamination in a bio-hazard environment.**
- **Learn the correct chemistry and equipment to use**
- **Insights into how to achieve the best results.**

Learn from industry experts and gain access to exclusive resources that will help you excel in your field!.

## Important Note

Most illicit drug residues are hydrocarbon-based, as are gloss paints and varnishes, allowing them to better penetrate and adhere to these coatings. In many cases, the paint or varnish must be removed.


# Pre-Wash Down

The Drug Lab Remediation process requires a pre-wash with a high-performance detergent emulsifier specifically designed for the removal stubbornly embedded carbons and oily residues from a variety of substrates.

**Methsan Prewash**

- Advanced chemistry chases micro-carbon compounds typical to drug lab residues.
- Proprietary chemistry dislodges micro-particles embedded in paintwork.
- High quality emulsification system removes associated soiling and oils.
- Super wetting agents ensures rapid penetration and action even on porous surfaces.
- Free rinsing characteristics.



# Main Wash & Decontamination

The main wash must ensure that all the chemical substance residues are either physically removed or deactivated.

This is a serious challenge considering the chemicals typically used, the mode of deposition onto surfaces and the variety of substrates involved. Powerful targeted oxidisation provides reliable results.

The MethSan system comprises of a part A oxidising solution which is then boosted with one of two part B activating solutions.

**MethSan A** – Hydrogen Peroxide based oxidising detergent.
**MethSan B Fog** – Booster activator which also enables fogging application.
**MethSan B Foam** – Booster activator which also enables foam application.

**Methsan Part A & B (Foam or Fog Boost)**

- A unique potentiated Hydrogen Peroxide blend with unparalleled oxidising action.
- Super wetting agents ensure rapid penetration and action even on porous surfaces.
- Powerful antimicrobial action on bacteria, viruses, fungi and mould.
- Use of **Foam Boost** produces a premium clinging foam.
- Use of **Fog Boost** facilitates a micro-droplet fog with additional protection for fogging equipment.

# Carpet, Fabirc & Hard Floor

## VII Chapter Seven

When it comes to restoring a property after a disaster, using the right products and chemicals can make all the difference. While many products are designed for specific purposes there is always a need for products formulated for regular Carpet, Fabric and Hard Floor Care. Refer to the Actichem Full Range Brochure for further information.


## Carpet & Fabric Care

The Actichem specially-formulated products for carpet and other fabrics provide dependable results and unmatched quality. We've spent years perfecting our carpet and fabric cleaning technology so you can depend on our products in your cleaning processes right down to the final thread, every time.


## Responsibly Green

The Actichem Responsibly Green range offers a high performance option for heavy to light clean up with the respected eco GECA certification. The ten GECA certified Actichem products include a wide variety of applications including window and smooth surface cleaning, disinfection, mould removal, floor cleaning and heavy duty wash downs.


## Woolsafe & Cleanseal

Relevant Actichem Carpet and Fabric Care solutions carry the globally recognised WoolSafe and CleanSeal approvals. Customers can rest assured that premium, certified cleaning solutions are used to ensure that no damage is done to their fibres, including colouring, or any applied finishes.


## Stone & Hard Surface Care

Actichem stone & hard surface cleaning solutions, restoration products and protection systems are relied on by cleaning contractors and stone professionals alike. Many of these surfaces have unique and challenging characteristics – the Actichem system provides effective solutions for the wide variety of applications in this sector.

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