



Risk Solutions

Slips, Trips, and Falls Prevention

Floor Cleaning Agents – Uses, Applications, and Best Practices

Utilizing proper floor cleaners is important to mitigating slip and fall exposures. The choice of floor cleaner can significantly impact the slip resistance and safety of a surface. Improper floor cleaners may leave residue and increase how slippery a surface is. To maintain the integrity of flooring materials and prevent any degradation that may compromise slip resistance, proper floor cleaners must be selected. By prioritizing the use of proper floor cleaners, businesses can create safer environments, reduce the risk of accidents and promote the well-being and confidence of those using the surfaces. It is important to note that all cleaning products require proper application, clean up, and consistent use to effectively keep walking surfaces safe. All cleaning agent use should adhere to manufacturer specifications and directions. Below is an overview of common cleaners and their respective advantages and disadvantages.

Alkaline Cleaners

Alkaline cleaners are effective at removing tough stains, including grease, grime and protein-based soils, leaving surfaces clean and less slippery. Their strong cleaning properties help reduce the risk of slips by eliminating residues. Alkaline cleaners may require utilization of hot water for proper application and rinsing. These cleaners may leave a residue behind if not rinsed properly, which can create a new slippery surface. Moreover, alkaline cleaners, if used incorrectly or in high concentrations, may damage certain flooring materials, leading to uneven surfaces or reduced slip resistance. Examples of alkaline cleaners include soap, bleach and ammonia.

Acidic Cleaners

Acidic cleaners are effective at removing mineral deposits, hard water stains, soap scum and rust, as well as breaking down fats and proteins. Acidic cleaners often provide quick results and are particularly useful in areas prone to mineral buildup. If not used correctly or in high concentrations, acidic cleaners can damage

surfaces, such as corroding metals or etching delicate materials, which may lead to uneven or compromised surfaces that increase the risk of slips and falls. Furthermore, acidic cleaners can be harsh and may require additional protective measures during application, such as gloves and eye protection.

Neutral PH

Neutral pH cleaners are gentle yet effective in removing dirt and grime without damaging surfaces. They are safe to use on a wide range of materials, including delicate surfaces such as natural stone or polished floors. By effectively cleaning without leaving behind residue or altering the pH balance of the surface, neutral pH cleaners can help maintain optimal slip resistance.

Questions on Loss Control or Safety

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Additionally, neutral pH cleaners are generally safer to handle and have fewer health risks compared to harsh acidic or alkaline cleaners. However, neutral pH cleaners may have limitations in tackling tough stains or deeply embedded grime. They may not provide the same level of deep cleaning as specialized acidic or alkaline cleaners in certain situations.



Degreasers

Degreasers are specifically designed to tackle grease, oil and stubborn stains, making them highly effective in removing slippery substances that can contribute to accidents. By eliminating grease and oil residues, degreasers can be particularly effective in commercial kitchens and industrial settings. Some degreasers have fast acting formulas, allowing for quick cleaning and reduced downtime. Degreasers may be solvent-based and include surfactants and alkaline cleaners. Certain degreasers can leave behind a residue if not rinsed thoroughly, which could create a new slippery surface. Some degreasers contain harsh chemicals that may require proper ventilation and protective gear during use.

Phosphate Based

Phosphate-based cleaners have excellent cleaning capabilities, particularly in removing tough stains, mineral deposits and scale buildup. They can effectively break down and dissolve various contaminants due to their anti-redeposition properties.

One significant drawback of phosphate-based cleaners is their negative environmental impact. Phosphates can contribute to water pollution and excessive algae growth, leading to ecological imbalances in bodies of water. Due to this environmental concern, the use of phosphate-based cleaners is restricted or banned in many regions. Moreover, some phosphate-based cleaners may be harsh and abrasive, potentially damaging delicate surfaces or altering the slip-resistant properties of certain materials. Note, phosphate-based cleaners can stain metal and damage grout.

Alcohol-Based

Alcohol-based cleaners evaporate quickly, leaving surfaces dry. This fast-drying property is particularly beneficial in high-traffic areas where maintaining dry surfaces is essential. Alcohol based cleaners are also effective at disinfecting and killing germs, making them suitable for use in healthcare facilities or areas requiring stringent hygiene standards. Alcohol based detergent properties loosen dirt for easy rinsing. Alcohol-based cleaners may have limitations when it comes to removing certain types of stains or heavy grime. They may not be as effective in tackling grease or oily residues, which won't mitigate certain slip hazards. Additionally, the flammable nature of alcohol-based cleaners poses a safety concern, requiring proper handling and storage to prevent accidents.

Petroleum-Based

Petroleum-based cleaners are often effective in removing stubborn stains, grease and oil residues. They have excellent degreasing properties, making them suitable for cleaning surfaces in industrial or automotive settings where heavy-duty cleaning is required. One significant drawback is that they can leave behind a residue that may create a new slippery surface if not rinsed thoroughly or evaporated completely. Petroleum-based cleaners are typically flammable and may pose a fire hazard if not handled and stored properly. Rags used for application of petroleum-based cleaners have combustion potential and must be disposed of in a non-combustible closing receptacle. Moreover, their use can have negative environmental implications due to the release of volatile organic compounds (VOCs) and potential groundwater contamination. Utilization of petroleum-based cleaners may require the use of engineering controls and personal protective equipment (PPE) to minimize inhalation and physical contact. Examples of petroleum-based cleaners include acetone, MEK and Xylene.

Green

Green cleaners are formulated using environmentally friendly ingredients that are safe for both human health and the environment. They often have lower levels of VOCs and are free from harsh chemicals, reducing the risk of skin irritation and respiratory issues. Green cleaners are designed to be biodegradable and non-toxic, making them a safer choice for cleaning surfaces in a wide range of settings. While they are effective at removing dirt and grime, they do not have the same level of grease-cutting power as traditional cleaners. Some green cleaners contain natural extracts that can lead to residue.

Enzymatic

Enzymatic cleaners are highly effective at breaking down organic matter, such as stains, urine and food residues. They contain specific enzymes that target and digest the organic substances, providing deep cleaning without the need for harsh chemicals. Enzymatic cleaners are often safe to use on a wide range of surfaces and are less likely to cause damage or alter the properties of the material being cleaned. Enzymatic cleaners may require more time for the enzymes to work effectively, which can prolong the cleaning process. Additionally, while enzymatic cleaners are efficient at breaking down organic matter, they may not be as effective in removing certain types of stains or non-organic substances. Enzymatic cleaners should be used with cold water as warm and hot water renders the cleaner less effective. Many of these types of cleaners should not be rinsed off. It is recommended to follow manufacturer specifications and directions when applying.

Conclusion

Utilizing proper cleaners is crucial to maintaining a slip resistant floor. Careful consideration should be given to the flooring material type, soil type, relative traffic of the floor area, health hazards, storage requirements and environmental hazards associated with the use of various cleaners. End-users should be trained on proper application, disposal and health hazards of various cleaners. It is always important to note that residues left behind after cleanup do not necessarily directly cause slips and falls, but they do contribute to a more slippery surface once moisture or spills occur. Some cleaners can be less effective depending on the temperature of water during application and rinsing. Improper rinsing and application can contribute to residue buildup, increasing the likelihood of a future slip and fall occurring. Some cleaners pose a fire hazard and must be utilized and stored accordingly. As discussed above, all cleaning products require proper application, clean up and consistent use to be effective and maintain safe walking surfaces. Manufacturer instructions must be adhered to. Careful consideration of all these factors will help minimize the slip potential posed by various flooring surfaces.

Sources:
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