Sustainability At Your Facility With Chemishield

Chemishield

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The Importance Of Sustainability At Your Facility

In 2024, the global perspective on sustainability has reached a critical juncture, prompting businesses and organizations to reevaluate their practices.

As we confront unprecedented environmental, economic, and social challenges, embracing sustainability is imperative for shaping a resilient and equitable future. By prioritizing environmental preservation, economic resilience, social equity, and global collaboration, we pave the way for a more sustainable world.

At the forefront of the sustainability discourse lies environmental preservation. With escalating concerns over climate change, biodiversity loss, and resource depletion, safeguarding our planet's ecosystems has become an urgent priority. In 2024, the scientific consensus on the existential threat posed by climate change is unequivocal. Rising temperatures, extreme weather events, and ecological disruptions underscore the need for immediate action.

Embracing sustainability entails transitioning to renewable energy sources, adopting circular economy practices, and mitigating carbon emissions. By prioritizing environmental conservation, we not only protect the planet for future generations but also ensure the long-term viability of human societies.

Sustainability is intrinsically linked to economic resilience. In an era marked by geopolitical uncertainties and market volatility, businesses and economies must embrace sustainable practices to thrive. Investing in renewable energy, eco-friendly technologies, and green infrastructure fosters innovation and competitiveness. Moreover, transitioning towards sustainable supply chains and production processes enhances operational efficiency and risk management. In 2024, the business case for sustainability is irrefutable.

Companies that prioritize environmental, social, and governance (ESG) criteria outperform their peers financially and are better positioned to adapt to evolving market dynamics. By integrating sustainability into economic strategies, we lay the foundation for inclusive growth and prosperity.

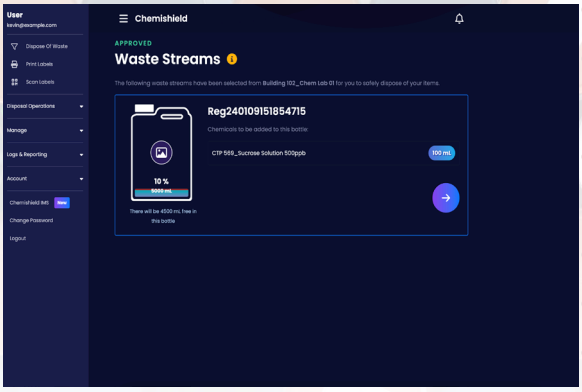
Chemishield's Role In Driving Sustainability Within Organisations

Proper Waste Segregation

The USP (unique selling point) of Chemishield is that it prevents the improper mixing of waste streams. During the on boarding phase, organisations name their waste streams and add waste to each waste stream so that when users of the application select waste to dispose of, Chemishield identifies where it should go.

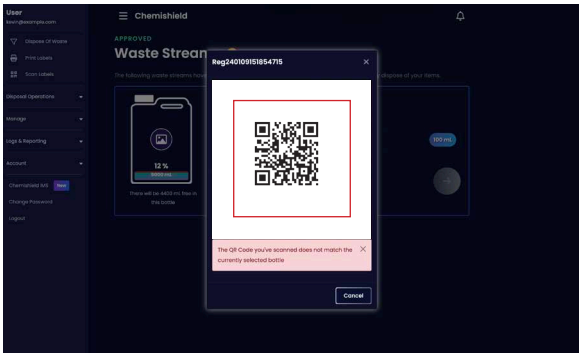
Without Chemishield

With Chemishield



Chemishield directing a user to the correct waste container

To ensure the correct waste goes where it should, the waste container/bottle/bin has a QR code that is scanned by the camera on the mobile device being used to select waste for disposal. If the incorrect waste container/bottle/bin is scanned, Chemishield displays an error message, thus preventing incorrect waste being put into the incorrect waste container/bottle/bin.



Chemishield's 2 step verification preventing a user from disposing waste in the wrong container/bottle/bin.

In instances of hazardous liquid waste, such as chemical waste, Pfizer Grange Castle have had in excess of over **400** mis-scans in a four year period.
Each mis-scan represents a potential accident avoided, as well as an instance of improper waste segregation being caught before it occurred. Refer to the Pfizer case study for further information.

Data Management and Analysis

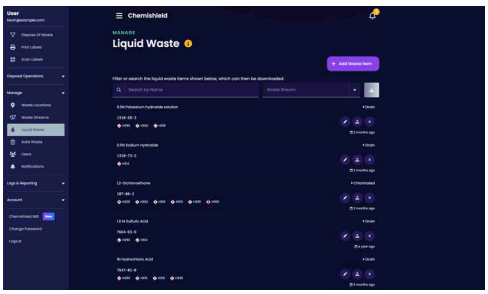
Chemishield enables organizations to collect, organize, and analyze data related to waste generation, disposal, and recycling efforts.

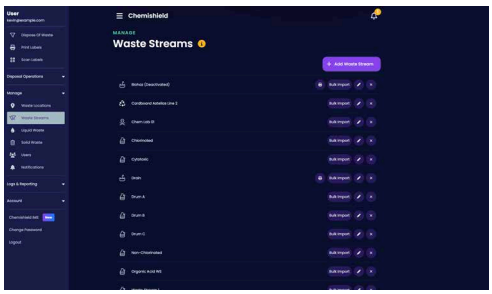
Chemishield's Wastage Trends allows the user to view the volume of different waste disposed over a time period.

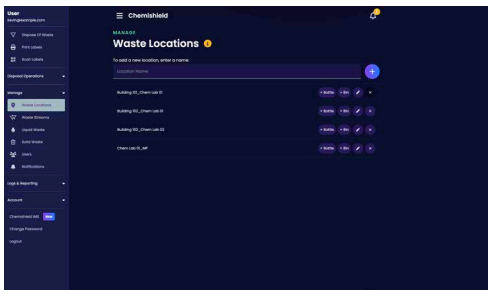
By tracking key metrics such as waste volumes, composition of waste, locations of waste generation within an organisation, personnel/departments responsible for generating waste, instances of mis-scans indicating instances of improper waste segregation being avoided, and disposal methods, businesses can identify areas for improvement and make data-driven decisions to optimize their waste management processes.

Resource Allocation and Inventory Management

Chemishield facilitates efficient allocation of resources, including bins, containers, and personnel, to ensure timely collection and disposal of waste materials.





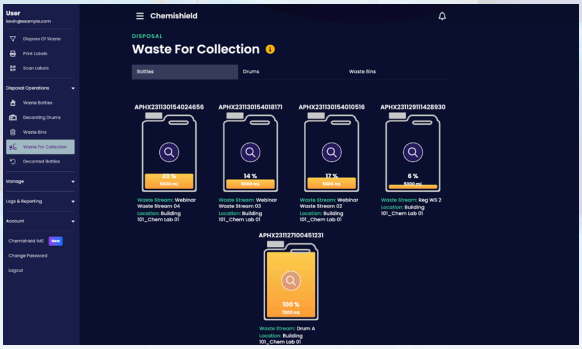


By maintaining accurate inventories and monitoring resource utilization, businesses can optimize resource allocation, minimize waste, and reduce unnecessary expenditures. Understanding the quantities of consumable raw materials required within an organization ensures that such organizations are operationally ready.

Chemishield's Role In Driving Sustainability Within Organisations

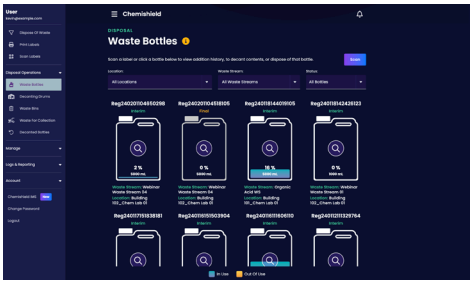
Optimization of Collection and Routing

Chemishield helps optimize collection routes and schedules, reducing fuel consumption, vehicle emissions, and overall operational costs. By leveraging advanced algorithms and real-time data, organizations can streamline collection operations, minimize truck miles traveled, and improve overall fleet efficiency.



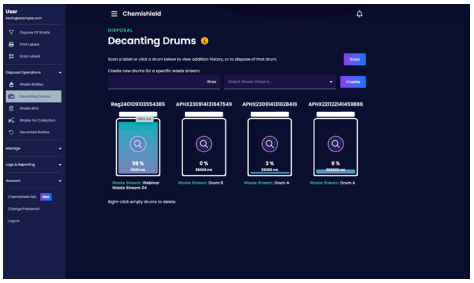
Chemishield's waste for collection screen shows users and third party vendors what waste containers need to be collected or removed from the site.

Chemishield achieves this by providing users with insights into the levels of waste across all locations in real time. What was once a pen and clipboard exercise taking up countless hours of manually checking waste levels, Chemishield provide's a bird's eye view of such allowing for greater operational efficiency and optimized collection rather than inefficient periodic collection dates/times.



Chemishield screens that assist in optimizing collection and routing.

Waste Bottles
Allows the user to check the current volume and status of bottles at all locations, or a selected location.



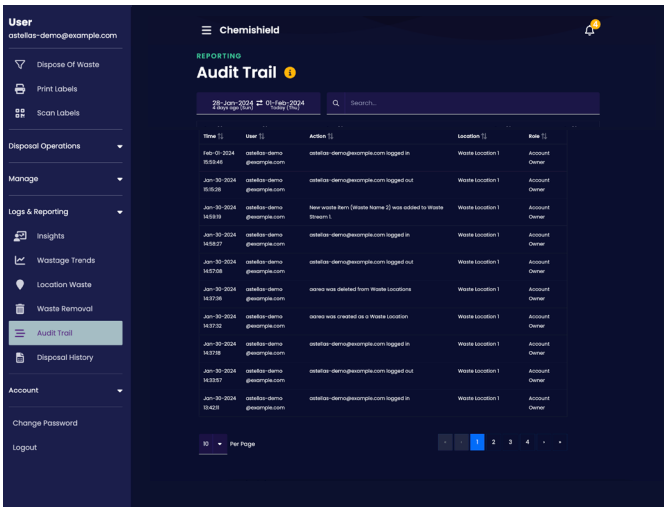
Decanting Drums
Allows the user to check the current volume of all decanting drums in the disposal area. Waste bottles are decanted into drums.

Waste Bins
Allows the user to check the current status of waste bins at all locations, or a selected location.

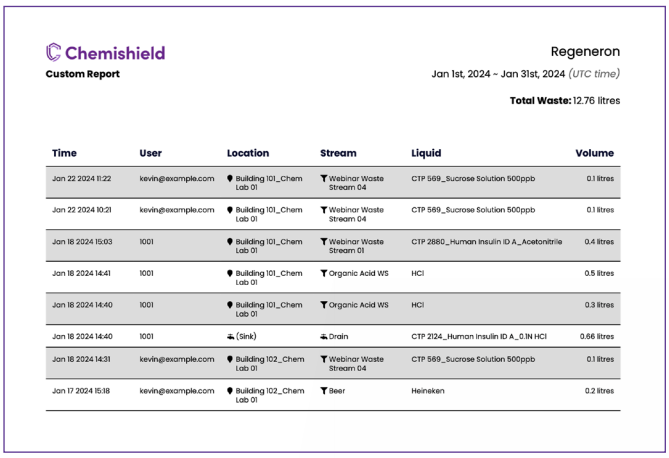
Chemishield's Role In Driving Sustainability Within Organisations

Compliance and Regulatory Reporting

Chemishield helps organizations ensure compliance with environmental regulations and reporting requirements. Such regulations include REACH. By centralizing data collection and automating regulatory reporting processes, businesses can minimize the risk of non-compliance, avoid penalties, and maintain a positive reputation with regulatory authorities and stakeholders. Such regulators could include the EPA.



Chemishield's Audit Trail screen allows the user to view all the actions taken by users at the site. The logs can be searched by entering any text that may be found in the table such as a user id, location name, or any other identifier. The range of dates can be adjusted.



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Custom Report

Regeneron

Jan 1st, 2024 - Jan 31st, 2024 *(UTC time)*

Total Waste: 12.76 litres

Time	User	Location	Stream	Liquid	Volume
Jan 22 2024 11:22	kevin@example.com	Building 101_Chem Lab 01	Webinar Waste Stream 04	CTP 569_Sucrose Solution 500ppb	0.1 litres
Jan 22 2024 10:21	kevin@example.com	Building 101_Chem Lab 01	Webinar Waste Stream 04	CTP 569_Sucrose Solution 500ppb	0.1 litres
Jan 18 2024 15:03	1001	Building 101_Chem Lab 01	Webinar Waste Stream 01	CTP 2880_Human Insulin ID A_Acetonitrile	0.4 litres
Jan 18 2024 14:41	1001	Building 101_Chem Lab 01	Organic Acid WS	HCl	0.5 litres
Jan 18 2024 14:40	1001	Building 101_Chem Lab 01	Organic Acid WS	HCl	0.3 litres
Jan 18 2024 14:40	1001	(Sink)	Drain	CTP 2124_Human Insulin ID A_0.1N HCl	0.66 litres
Jan 18 2024 14:31	kevin@example.com	Building 102_Chem Lab 01	Webinar Waste Stream 04	CTP 569_Sucrose Solution 500ppb	0.1 litres
Jan 17 2024 15:18	kevin@example.com	Building 102_Chem Lab 01	Beer	Heineken	0.2 litres

Chemishield's ability to download a report in a PDF or .xslx format allows an in depth breakdown of disposals at the facility.

Promotion of Recycling and Circular Economy Practices

Chemishield encourages recycling and circular economy practices by tracking the flow of recyclable materials, facilitating sorting and segregation efforts, and promoting collaboration with recycling partners and suppliers. By incentivizing recycling initiatives and providing insights into the environmental and economic benefits of recycling, businesses can reduce waste sent to landfills, conserve natural resources, and promote sustainable consumption and production patterns.

One such use of Chemishield for the management of solvent waste segregation has ensured that hazardous waste collection companies can better segregate solvent waste with a higher caloric content which is then in-turn used in the cement manufacturing process as fuel as opposed to traditional fossil fuels.

Engagement and Education

Chemishield enables organizations to engage employees, customers, and other stakeholders in sustainability initiatives by providing visibility into waste management processes, promoting awareness of environmental impacts, and encouraging participation in recycling and waste reduction programs. By fostering a culture of sustainability and accountability, businesses can empower stakeholders to contribute to ongoing efforts to minimize waste and protect the environment. Remember, you cannot change what you cannot measure.

Chemishield's CEO Kevin Walsh presenting at the Lab and Cleanroom Expo in Dublin on the topic of eliminating paper, enhancing safety & the move towards a circular economy

Gartner® & Chemishield

The 2022 Gartner Sustainability Opportunities, Risks and Technologies Survey shows:

- **86%** of business leaders see sustainability as an investment that protects their organization from disruption
- **Four out of five** leaders see sustainability as helping their organization to optimize and reduce costs
- **83%** say their sustainability program activities directly created both short and long-term value for their organization
- Nearly **70%** of surveyed CEOs plan to invest in new sustainable products and in making existing products more sustainable.
- Environmental sustainability is rising on CEO agendas, and **9%** of CEOs put it among their top 3 business priorities.

Gartner, a leading research and advisory company, has been actively monitoring the evolution of waste management applications within the sustainability quadrants. The sustainability quadrants typically represent different dimensions of sustainability efforts, such as **environmental impact, social responsibility, economic viability,** and **governance.**

Here's how waste management applications have been evolving within these quadrants:

Environmental Impact — **Social Responsibility** — **Economic Viability** — **Governance**

Environmental Impact:

Waste management applications have been crucial in addressing environmental concerns such as pollution, resource depletion, and ecosystem degradation. Gartner's research likely highlights the role of waste management solutions in minimizing environmental harm by promoting recycling, reducing landfill waste, and encouraging sustainable disposal practices.

Waste management technologies, such as IoT-enabled sensors for waste monitoring, advanced recycling systems, and waste-to-energy conversion, play a significant role in mitigating environmental impact.

Social Responsibility:

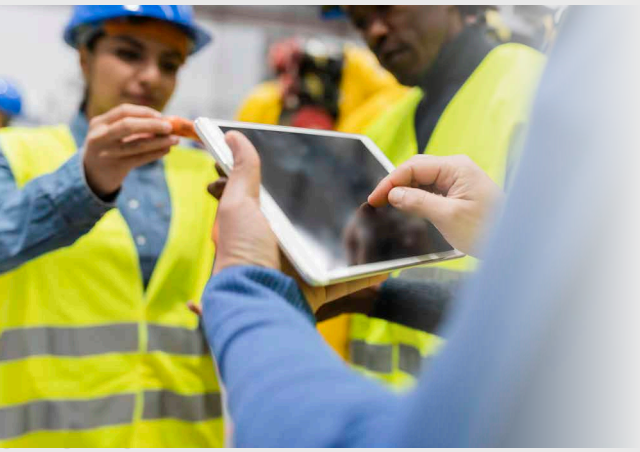
Waste management applications contribute to social responsibility efforts by promoting community engagement, improving public health, and enhancing quality of life. Gartner may have identified how waste management initiatives create employment opportunities, foster community collaboration in recycling programs, and promote public awareness about waste reduction and recycling practices.

Companies investing in waste management technologies often emphasize their commitment to social responsibility by supporting initiatives that benefit local communities and vulnerable populations.

Economic Viability:

From a financial perspective, waste management applications offer opportunities for cost savings, revenue generation, and operational efficiency improvements. Gartner's analysis explores how organizations can optimize waste management processes to reduce operational expenses, comply with regulatory requirements, and capitalize on emerging market opportunities in the waste management sector.

Waste management solutions (not only software related) that streamline collection, sorting, and disposal processes can help organizations achieve cost efficiencies while also unlocking new revenue streams through recycled materials and waste-to-energy projects (solvent recovery for the cement manufacturing process as referenced previously in this document).



Governance:

Waste management applications also play a crucial role in governance by facilitating regulatory compliance, risk management, and transparent reporting practices. Gartner have highlighted how waste management technologies enable organizations to track waste streams, ensure regulatory compliance with environmental regulations, and maintain accountability throughout the waste management lifecycle.

- Additionally, waste management solutions help organizations mitigate reputational risks associated with environmental non-compliance and demonstrate their commitment to sustainability governance to stakeholders.

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Visit **chemishield.com** to get a recorded or live demo

Sources:
2022 Gartner CEO and Senior Business Executive Survey
2022 Gartner Emerging Priorities in Supply Chain Survey
2022 Gartner Circular Economy Survey