



# MSDS Authoring, Management and Distribution Software System

Combining sophisticated functionality with an easy-to-use interface results in increased efficiency, improved compliance, and consistent document production, distribution and administration.



ONDATA

## Overview

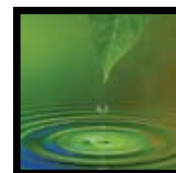
Tracking International chemical regulatory guidelines and providing accurate and compliant hazard communication has never been more important – or more complex. Companies of all sizes increasingly face challenges that result from globalization in the marketplace and an increase in international initiatives to protect the health and safety of employees and end-users of hazardous materials, as well as the environment. To meet these complex requirements, EH&S, R&D, and Product Stewardship professionals turn to MSDgen – the leading globally-established and scalable hazard communication and chemical regulatory compliance software system.

Manufacturers from a wide variety of industries, from the U.S., to Europe and Japan, choose MSDgen because it provides the tools necessary to effectively manage the complexities of gathering accurate data, applying international chemical regulatory directives and guidelines, and issuing reliable hazard communication documentation for an in-house and international audience.

## A Powerful and Unique Combination

MSDgen users enjoy the unique benefits of having the software, data, services and support from a single source. 3E Company is the only EH&S vendor to offer a unique and powerful combination of integrated and optimized world-class Ariel™ data, sophisticated data management tools and comprehensive outsourced services to support product and workplace safety and stewardship.

3E Company invests heavily in attracting and retaining employees with deep EH&S domain expertise, from a wide variety of industries and backgrounds. We have professionals who possess the necessary skills to ensure the integrity, accuracy and quality of our data, products and services. EH&S, R&D and Product Stewards find comfort in knowing the products and services they rely on are built by their peers who understand the business and burden of global EH&S compliance. And, providing customers with direct access to this knowledgebase has unprecedented value.



Trusted Global Provider of Chemical, Regulatory & Compliance Information Services

## MSDS AUTHORIZING



### **HazCom Document Templates**

Any variety of Hazard Communication templates may be generated by MSDgen to meet international regulatory compliance and business requirements. MSDgen provides full support of hazard communication, classification and labeling directives to generate (M)SDS and label documents for Australia, Brazil, Canada, China, EU and EU Member States (for meeting REACH requirements), GHS, Hong Kong,

Japan, Korea, Malaysia, Mexico, New Zealand, Philippines, Singapore, Taiwan, Thailand, US (Federal and State specific) and more. MSDgen also supports the generation of business/user definable document templates, such as TDSs (Technical Data Sheets), PDSs (Product Data Sheets), Hazard Summaries and Product Stewardship Summaries.

### **Integrated Regulatory Data**

MSDgen is much more than software. It is fueled by world-class Ariel data, which is considered the highest quality, most comprehensive collection of regulatory information by many of the world's top chemical manufacturers. More than 300 multi-national organizations have come to trust Ariel data because of the documented best practice methodology used in sourcing the content. Rather than serving as a reseller of third party data, 3E Company's own team, through direct relationships with regulatory bodies across the globe, gathers, refines and maintains Ariel data. MSDgen

also supports other data sources, such as ChemADVISOR (LOLI), if preferred.

MSDgen accesses live substance links for physical and chemical properties, toxicology data such as LD50s, as well as international regulatory and advisory data. Regulatory data is integrated into MSDgen and structured into fully normalized data structures to be used in MSDgen's automatic classifications and mixture-level estimations, as well as presented on the appropriate hazard communication documents.

### **Authoritative Phrase & Glossary Library**

A comprehensive library comprised of nearly 8,000 distinct statements is available in more than 40 different languages. This library provides a broad repository from which to draw during the authoring of (M)SDSs and labels, and the execution and creation of Rules. Authors may edit statements within each section-specific segment of the library. Updates to the Glossary Library are also available on a subscription basis.

### **Supplemental Authoring Support When You Need It**

For those inevitable times when companies need supplemental assistance during the ebb and flow of workload, Ariel Authoring Services can provide outsourced or co-sourced assistance with authoring (M)SDSs via 3E's own fully-dedicated, in-house staff of highly qualified, multi-lingual authors.

### **Support Beyond Authoring**

Because of 3E Company's suite of products and services span the entire chemical lifecycle, manufacturers can rely on 3E for product safety and stewardship, as well as workplace compliance assistance:

- Vendor (M)SDS Management
- Transportation Classification and Shipping Papers
- 24-7-365 Customer Support and Emergency Response to spills, inhalations or ingestions
- Hazardous Waste Services



## Automatic Calculations and Classification Systems

### EU Classification Algorithms

The built-in EU Classification Algorithms automate the classification and labeling assessments that are required by EU regulations.

At the substance level, MSDgen assigns the classification and labeling information as outlined in Annex I of the EU Dangerous Substances Directive (67/548/EEC). This includes the categories of danger, Risk and Safety Phrases and symbols.

MSDgen determines the hazards of preparation by evaluating the substance classification as well as the concentration limits for each ingredient outlined in Annex I of the Dangerous Preparations Directive or within the Dangerous Preparations Directive (1999/45/EC). If experimental data is present, the assessments based on this data overrule any that were made via the conventional method. The corresponding Risk & Safety Phrases and symbols are assigned.

### Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

MSDgen uses many algorithms to accommodate the requirements outlined in the GHS. This consists of the classification of substances and mixtures according to their health, environmental and physical hazards, and HazCom requirements for labeling and Safety Data Sheets.

At the substance level, assessments are made to determine the hazards based on experimental data. In addition, published GHS regulatory lists are incorporated for substance assessments. For mixtures, where test data is available for the complete mixture, the classification is always based on that data. In the absence of data, the mixture calculations utilize the methods outlined in the Purple Book.

Automatic assessments may also be based on the EU Risk phrase conversion table outlined in the EU GHS regulation. As with all automatic assessments, users have the ability to override the classification. Where test data is not available for the mixture itself, the hazards are estimated based on the ingredient data. The corresponding hazard statements(s), signal word, and symbol(s) are automatically assigned.

GHS Rules assign the precautionary statements outlined in Annex 3 of the GHS as well as many other standard statements for each classification.

### TRANSPORTgen Transport Classification System

TRANSPORTgen is a classification engine within MSDgen to determine and assign Transport Information to product and raw material mixtures. Hazard Class, Packing Group and Proper Shipping Name determinations are based on the classifications of the components of the

mixture, as well as from the properties of the mixture, such as physical state, LD50, Flash Point, pH level, and so on. These determinations occur automatically based on the information that is given for the mixture and involve many dependencies, calculations and exceptions that meet international transport regulations. Agencies supported include: ADN, ADG, ADR, DOT, IATA, ICAO, IMDG, RID, and TDG.

### Automatic Mixture Assessments & Regulatory Analysis

Other mixture-level assessments and classifications are made for dozens of data points based on substance-level data obtained through the chemical regulatory updates and available empirical raw material data. Automatic calculations and classifications exist for physical properties, LD50s, LC50s, OSHA hazards, WHMIS hazards, HMIS III® ratings, NFPA ratings, SARA ratings, Germany WGK, International Inventories, RoHS, Hazchem code and many more.

### Material Assessment Log

The Material Assessment log provides an at-a-glance review of automatic mixture determinations. The log displays the results and logic for all of the automatic mixture calculations and classifications for any given material.



# MSDS Authoring, Management and Distribution Software System



## Rules-based Generation

Off the shelf, MSDgen comes with hundreds of standard Rules for the automated generation of material data displayed on (M)SDSs and other HazCom documents. The system also comes equipped with a powerful and intuitive Rules painter to enable Rules editing and the creation of new, custom Rules.

Quarterly updates to MSDgen Rules are provided as part of the Rules and Document Template update subscriptions.

### **MSDgen MSDrules**

Rule-sets are available for numerous countries including Australia, Brazil, Canada (WHMIS), China, EU, GHS, Japan, New Zealand, and US (OSHA, ERG, HMIS III®, NIOSH, RCRA).

### **Rules Creation**

New Rules may be easily created using MSDgen's powerful, yet user-friendly Rules Painter. No other system offers the level of flexibility, power, and intuitiveness of MSDgen's Rules engine.

Standard Rules and user definable Rules are built in the same consistent manner – with Structured Query Language or SQL statements. Since SQL is a global standard for database query design, Rules may be as simple or as complex as necessary. Rules may be designed to look at any set of tables or views in the database, meaning there are virtually no predefined limitations. MSDgen's Rules Painter provides a graphical Query By Example interface which allows users to pick the fields and data from the same type of data layout as the data entry screens that are used to enter the data. Since MSDrules were designed using this same Rules Painter, all Rules provided with MSDgen may be customized to meet specific business requirements.

### **Rules Update Subscription**

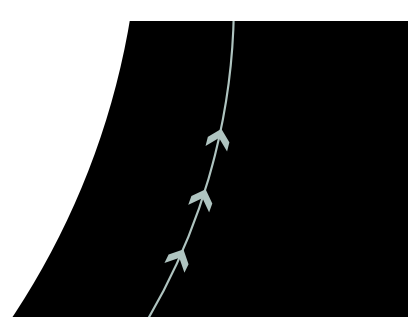
Quarterly updates to the standard Rules ensures full support of current regulatory requirements. Rules updates do not affect user-defined or customized Rules.

## REACH

MSDgen supports the collection of data that is necessary for the preparation of a REACH compliant (M)SDS. Registration and authorization details may be entered for substances requiring registration. Exemption status is automatically recognized based on the data retrieved from the regulatory data content source. Unique registration details may be associated to each legal entity. Multiple registration numbers are then included on the (M)SDS.

MSDgen's glossary library structure enables a statement to be defined once and reused unlimited times. This structure is combined with a unique concept of authoring the Exposure Scenarios (ES) for a "Product use" within a sector and associating the ES to multiple, similar products. This process will minimize the laborious undertaking needed to define the large amount of text required for the RMMs, WMMs, Technological Process, etc., in the ES.

An interface between MSDgen and IUCLID5 is being developed for release in 2008. Information residing in MSDgen may be transferred to the local IUCLID5 database for subsequent uploading to REACH-IT. This includes physical and chemical properties, toxicological and ecological data. In addition, data residing in IUCLID5 may be transferred to MSDgen for inclusion on the (M)SDS.





## **Formulation Management**

MSDgen provides a variety of methods for managing product formulations:

### **Nested Ingredient Algorithm**

MSDgen's Nested Ingredient structure uses a recursive algorithm to traverse through a product's hierarchy and find the eventual base level ingredients. Based on the results of this "drill-down" process, ingredients are appropriately used in MSDgen's automatic calculations and classification systems and properly displayed on the (M)SDS documents based on the concentration limits required for the specific country/region (e.g. Australia, Canada, China, EU, US, etc.). There are no limitations on the levels of raw materials considered in the Nested Ingredient algorithm and the base level components are easily displayed either graphically or via MSDgen's Component Summary window.

### **Automatic Formula Acquisition**

MSDgen may be used as the point of entry for formulations or formulations may be automatically acquired via a direct interface to other ERP or R&D systems. (M)SDSs are updated and queued for review based on the acquisition of new and updated formulas.

### **Trade Secret and Disclosure Management**

Trade Secret management is one of the aspects handled by the MSDgen disclosure functionality. The disclosure logic in MSDgen is built-in to automatically determine all ingredients that are to be disclosed based on the regula-

tory requirements for the region that the document serves. The default logic can be easily overridden at numerous levels. Any ingredient can be expressed as a trade secret with a proprietary CAS Number. Conveyed percentages can be changed for any ingredient. Conveyed names can be changed. Ingredients can be hidden or displayed. While the disclosure logic for all documents is based off of the same set of common composition data for a material, it allows you to portray each regulatory document in as distinct a manner as necessary with its granular selection criteria for deciding what ingredients are to be displayed and with what properties.

### **Before-Reaction and After-Reaction Compositions**

Composition structures are available for the management of both Before-Reaction Composites (BRC) and After-Reaction Composites (ARC).

Users can assign the ARC manually by entering the ingredients one at a time in the same manner as they are entered in the Ingredients tab. The ARC can also be conveniently copied by using one of a number of copy procedures.

Each ingredient in the ARC can be flagged as a participant in the reaction. MSDgen retains all ingredients designated as participants and automatically assigns a weighted percentage to these reactant participants as non-reactant percentages in the base composition are changed over time.

### **Formulation History**

The history of all formulations is automatically tracked for every mixture (raw material or product) to review changes over time and determine the former state of a formulation at any point in time.

### **Alternate Trade Name Management**

With MSDgen's Alternate Trade Name (ATN) features, (M)SDSs and other HazCom documents may be generated with any number of commercial names based on a single common material source. This many-to-one relationship enables the user to maintain a single data source, while generating any number of unique (M)SDSs from that same source of data with varying commercial names.

In addition to this ability to manage products marketed under a variety of product names and manufacturer names, MSDgen includes the ATN Composition option – the ability to tie unique data to an Alternate Trade Name (M)SDS, such as product codes, composition disclosures and manufacturer address and logo. MSDgen's ATN management is ideal for businesses providing private labeling services.

## DATA MANAGEMENT AND ADMINISTRATION

Delivering user convenience while tackling technical and business complexities.



**Overview** | While (M)SDS Authoring functionality comprises a majority of the features by which many companies evaluate systems, consideration should also be made for the sometimes “behind-the-scenes” data management and (M)SDS administration capabilities.

### Version Control & Archiving

The maintenance of “draft” versus “release” versions of authored (M)SDSs is managed through MSDgen’s Version Control and Archiving feature set. Upon approval for finalization, each (M)SDS document/language combination is automatically archived as a read-only PDF for current distribution and availability on the web through the iMSDgen MSDSviewer web distribution add-on. Archives are maintained for each new version so that a listing of every document/language combination is available for historical

reference and 30-year archival compliance (in the U.S.).

The Version Significance feature gives (M)SDS authors and administrators the ability to designate a level of significance for each new (M)SDS version update, which indicates the degree to which each update is to be distributed. Users may designate significant changes that require a full version number increment, or insignificant changes that merely require an increment to the point release (e.g. 2.0, 2.1, 2.2).

In addition to (M)SDS documents authored in MSDgen, vendor supplied (M)SDSs, Technical Data Sheets, labels and other regulatory reference documents may also be archived for future reference.

### User-definable Queries

User-definable database queries, called Search Objects, provide a powerful means for searching, locating and retrieving material data and HazCom documents stored within the MSDgen database. Search Objects provide the ability to perform ad hoc queries on virtually any set of data in the database. Search Objects are based on standard database level SQL commands, not arbitrary custom query code.

MSDgen includes dozens of Search Objects “out-of-the-box” with the ability to create new Search Objects based on any desired data combination. Once a

Search Object has been defined, it may be used as often as needed. Additionally, search Result Sets may be saved and utilized later as the basis for other queries to perform drillable searches. Results sets may be quickly and easily exported in a variety of file formats for ad hoc analysis and reporting outside of MSDgen.

### Reports

MSDgen comes fully equipped with hundreds of pre-defined reports that enable the user to organize, display and distribute valuable information for internal review and analysis. Stock reports provide the ability to generate information on all aspects of the MSDgen database, from listings of materials by hazard classifications, global inventories and regulatory listings, to information on suppliers, customers and system user activity. New MSDgen reports may be created at any time and catalogued along with those provided “out of the box.”

### iMSDgen INVENTORY manager

In addition to MSDgen reports, the web add-on iMSDgen INVENTORYmanager provides chemical inventory management and the generation of facility-level chemical regulatory reports (including SARA 311, Tier I and Tier III) through seamless integration with MSDgen and interfacing with external inventory management and ERP systems.



## Batch Processing

MSDgen's rich set of batch processing routines allow users to perform nearly any task in batch manner. Furthermore these batch tasks are optimized to take advantage of the processing power of your IT environments. Parallel processing functionality is present for rules generation, mass finalization and release of documents, and Ariel data import impact analysis processing.

## System Security with Workflow & Notification

### System Security

With MSDgen's robust security access management, corporate-wide security access is controlled at the User, Group, Activity, Menu and Window level. Users may belong in one or more groups and each group may be involved in one or more activities. Each activity may have access to one or more menus and each menu, in turn, is associated to one or more windows. Within each level of security, read-only or read-write access rights may be granted.

MSDgen has been audited by security experts at Hewlett-Packard and Pepsi-Cola Company prior to implementing MSDgen. Their objective was to ensure that MSDgen provided the best possible security measures for protecting their valuable trade secrets. This required secure single sign-on methods, field level access control, and the ability to securitize any abstract object in the system, including Documents, Reports, Glossary

Statements, Rules, Languages, Sections, Procedures and Workflow Tasks.

### Workflow and Notification

For the streamlining of internal processes among multiple participants for the creation/review of new formulations, material data authoring, regulatory assessment review and (M)SDS approval, MSDgen offers a powerful set of Workflow and Notification features. This includes the ability for a system administrator to graphically design Workflows by assigning user-defined tasks, with each task having one or more user group assigned. Email notification is used to ensure that the proper messaging is distributed to the appropriate members of the Workflow as certain activities occur in the sequence. Users are able to instantly view all tasks that are relevant to them, and may instantly approve any of the tasks in the list. Tasks may also be rejected or recalled. Additionally, any task has the ability to start another workflow by calling a task within that Workflow. MSDgen Workflow and Notification provides an excellent set of tools in cases where collaboration among different users is required for the successful completion of the (M)SDS creation and approval process.

### External System and ERP Interfacing

MSDgen was designed to interface with essentially any type of ERP or legacy system. Integrating MSDgen within your

corporate IT infrastructure enables a high degree of business process automation including: distribution of (M)SDSs based on customer order transactions; real-time printing of (M)SDSs, shipping documents, and HazCom labels; formulation acquisition to facilitate the (M)SDS creation and update process; and inventory reporting including SARA Title III. Using MSDgen's standard interfacing toolset, interfaces have been successfully established between MSDgen and the following ERP systems:

- Adage Technologies
- AS400 (Customer applications)
- Infinium
- Intenia Movex
- JD Edwards/PeopleSoft
- Oracle ERP
- Ross iRenaissance
- SAP
- Other internal legacy systems

### Multi-Language User Interface

MSDgen supports a multi-language Graphical User Interface from the same system. Each MSDgen user is assigned a language through Security Access that enables him or her to automatically access MSDgen in their native language upon logging into the system. MSDgen is currently being accessed by users in Chinese (Simplified and Traditional), Indonesian and Tagalog (Philippines). Additional languages are easily added at any time simply by loading the application translations.

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## Certification Management

A valuable feature for companies within the Flavor industry, MSDgen offers a business extension for the management of ingredient level Certification tracking (for Kosher, FDA, GMO, BATF, Halal) and the logic-based determination of product-level Certification status. Certifications are tracked at the component level and mixture level algorithms automatically use this data to make mixture level assessments, such as whether or not a given product is Kosher certified. MSDgen's Certification features also manage all corresponding electronic certification documents, such as Kosher certification approvals.

## Vendor (M)SDS Management

In addition to being a complete (M)SDS authoring and chemical regulatory system, MSDgen also provides a complete subsystem for the management of inbound vendor (M)SDSs. Vendor (M)SDSs may be received electronically in a variety of formats, including PDF, TXT, Word, XML, and TIF, or they may be scanned directly into the system. MSDgen allows the user to associate any number of vendors to a single material so that (M)SDSs are readily available for all suppliers of a particular raw material. Additionally,

MSDgen supports the management of vendor (M)SDSs in multiple languages, so that MSDgen may serve as a central repository for the management of (M)SDSs for facilities internally. This means for any vendor-supplied raw material, you may have (M)SDSs for multiple suppliers and for each supplier the (M)SDS may be available in any number of languages.

Vendor (M)SDSs managed by MSDgen are automatically available for viewing and printing from the iMSDgen MSD-viewer Intranet website, where (M)SDSs may be searched by any variety of user-defined details.

In cases where it is preferred to outsource the obtainment and management of vendor (M)SDSs, MSDgen provides interfaces with 3E Online®.

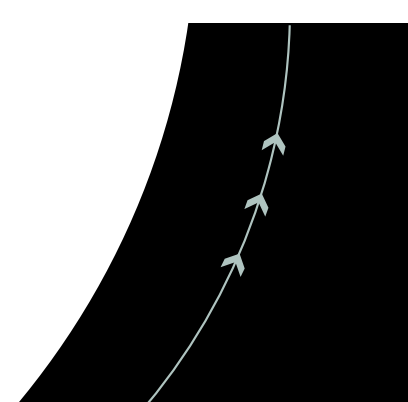
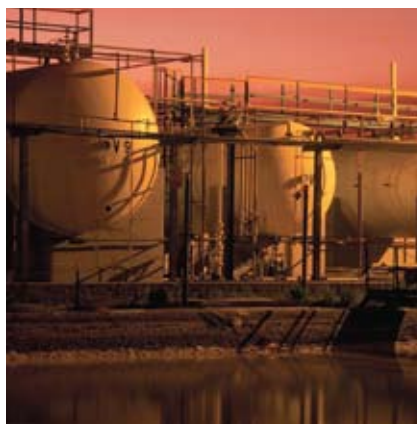
## Fully Open, Normalized Database

MSDgen employs a fully open and normalized database backend for its Client/Server as well as Web components of the application. The backend database architecture used by MSDgen is one of the most open in the industry. There

are no hidden catalogs, no proprietary storage mechanisms, no homegrown structures, and no ad hoc access logic.

Everything is based on the tried-and-true industry tools and techniques such as relational data modeling, standard database objects, and SQL query logic. This open approach allows MSDgen to use any standard relational DBMS such as Microsoft SQL Server and Oracle as its backend, with the very same source executable program.

MSDgen is also built on a normalized data model, resulting in data consistency, real life data modeling that allows the database schemes to closely reflect and replicate real-life situations, the consumption of less storage space since data is stored in an optimum manner, and significantly higher level of support of commercial level database optimization techniques.



## LABEL PRINTING AND (M)SDS DISTRIBUTION

MSDgen provides flexible options for the dissemination of critical communication to downstream customers and users.



**Overview** | MSDgen's extensive set of Distribution options ensures your (M)SDSs, labels and other HazCom documents are published, distributed and retrieved in any manner required. Using MSDgen's automated distribution options along with an interface to an order-entry system, (M)SDSs may be printed, faxed or emailed as customer orders are processed. And, with the iMSDgen MSDSviewer web distribution add-on, (M)SDSs in varying formats and languages may be searched and retrieved by a web browser via the Internet or Intranet. Full Label Production may be established so that MSDgen automatically

generates the HazCom labels at the appropriate facility based on orders, shipping or production triggers obtained through an MSDgen interface to your company's ERP.

### **Automatic (M)SDS Distribution**

With an MSDgen interface to the corporate customer order system, (M)SDS are automatically distributed to customers as order transactions occur. Logic for (M)SDS distribution is controlled in MSDgen and configured to meet your company's distribution preferences.

Examples of automated (M)SDS distribution criteria include:

- Sending an (M)SDS when the customer initially purchases a product
- Sending an (M)SDS update when the information within an (M)SDS has changed since the last distribution to the customer (distribution is based on the significance level of change)
- Re-sending an (M)SDS when a year has passed since the customer last received an (M)SDS for a particular product

When one of these conditions occurs, (M)SDSs are distributed based on the preferred method for each customer – hardcopy or email. The (M)SDSs are accompanied with user-defined cover letters that automatically include the recipient's name, a list of the attached (M)SDSs and, optionally, an indication of what has changed on the (M)SDS since the last distributed version. And, using the (M)SDS Customer Delivery History module, users may immediately review all of the (M)SDS distribution activity that has occurred for each customer.

For companies who want to outsource the mailing and shipment of hardcopy (M)SDSs to their customers, ask a sales representative about 3E Push Distribution Services.

### **Features**

#### **Emergency Response Export**

Libraries of finalized (M)SDSs may be easily grouped for routine submission to the emergency response partner of your choice, including 3E's own 24-7-365 EH&S Mission Control Center as well as Chemtrec. Whenever an (M)SDS is finalized, it is automatically generated in the proper file type and file naming convention, with the appropriate index information required by the emergency response organization.

# MSDS Authoring, Management and Distribution Software System

**3E** | MSDgen

## Features Continued ...

### **CD/File Generation**

MSDgen's CD/File Generation utility extracts any desired set of documents and delivers them in PDF format with a user-defined index file.

Documents may be delivered as individual files or in a contiguous, streamed file. CD/File Generation may be automated with an MSDgen macro so that pre-defined sets of documents are automatically exported to their pre-determined destination at regularly scheduled intervals.

### **HazCom Label Generation**

MSDgen includes full labeling capabilities to provide a single solution for all HazCom document generation. This centralized approach enables users to author and manage data in one location yet generate all HazCom document output from the same source of data, resulting in much more consistent documentation.

### **Unlimited Label Formats**

MSDgen supports the generation of essentially any size and format label, including formats specific for Australia, Canada, Chile, EU, GHS, Japan, China, New Zealand, U.S., etc., in addition to unique formats designed specifically to meet the company's requirements. MSDgen HazCom labels support any combination of sizes, symbols, bar codes and text – including any number of multiple languages on the same label.

### **DOCUgen user Interface**

DOCUgen is a document generation user interface that provides a quick and easy-to-use method for accessing and printing HazCom documents at the

facility level. The most common use of DOCUgen is for the printing of labels on the shop floor. Labels printed through DOCUgen may be optionally configured to prompt for any number of data elements, such as lot number, batch number or net weight. Operators may type in prompt data values or simply select the value from a dropdown list.

### **Automated Label Production**

Labels are also automatically printed as part of a batch process that includes integration with an external ERP system. Order, production and shipping transactions trigger the printing of labels in an automated mode so that MSDgen automatically determines the facility/location where the label will print, as well as the size and language(s) of the label.

### **iMSDgen LABELgenerator**

LABELgenerator provides the additional option for printing HazCom labels authored using MSDgen through a standard web browser. LABELgenerator is completely integrated with MSDgen yet, as a completely web-based add-on, requires no separate software installation. And, as with DOCUgen, labels printed using LABELgenerator may be configured to include dynamic data elements passed from an external ERP system and designed to include operator-level data prompts.

### **iMSDgen MSDSviewer**

The iMSDgen MSDSviewer is a web-based add-on designed for the search and retrieval of (M)SDSs (and other documents such as Technical/Product Data Sheets) available on the Intranet and Internet. All (M)SDS updates are available immediately worldwide as they are updated and approved for release in MSDgen.

The MSDgen database is used as the searching mechanism for MSDSviewer, which means any type of search is possible, including searches by product name, synonym, raw material code, CAS number and so on. Both authored and vendor supplied sheets may be accessed from the same web portal, allowing users to centralize document access to a single corporate website.

The MSDSviewer web pages offer some of the most powerful search and retrieval methods available. This includes the ability to not only retrieve multi-language (M)SDSs, but also the ability to search for documents in any language. This means that users at a facility in Italy, for example, may search for an (M)SDS for Sulfuric Acid by typing in the first few characters of the text "Acido Sulfurico." This method also allows cross-language searches so that a Spanish (M)SDS document may be searched using the Dutch language. And, since there may be facilities located worldwide, each facility can specify its own unique search and retrieval language defaults, all from the MSDviewer website.

In addition to MSDSviewer's flexible search and retrieval features, the web add-on also includes the ability to select, queue, then email documents directly from the web pages. This is ideal for Intranet users who wish to fulfill ad hoc customer requests, or for use by sales people who need to quickly and easily provide (M)SDSs and Technical/Product Data Sheets to potential customers.



# MSDgen Suite at a Glance



**Flagship Product:** For the authoring, management, and distribution of (M)SDSs and the generation of HazCom labels.



**Add-on Suite:** The web-based companion platform for integrated enterprise extensions to MSDgen.



**Add-On:** For facility-level chemical inventory management and reporting.



**Add-On:** For the searching, retrieval and email of (M)SDSs authored, managed and approved in MSDgen.



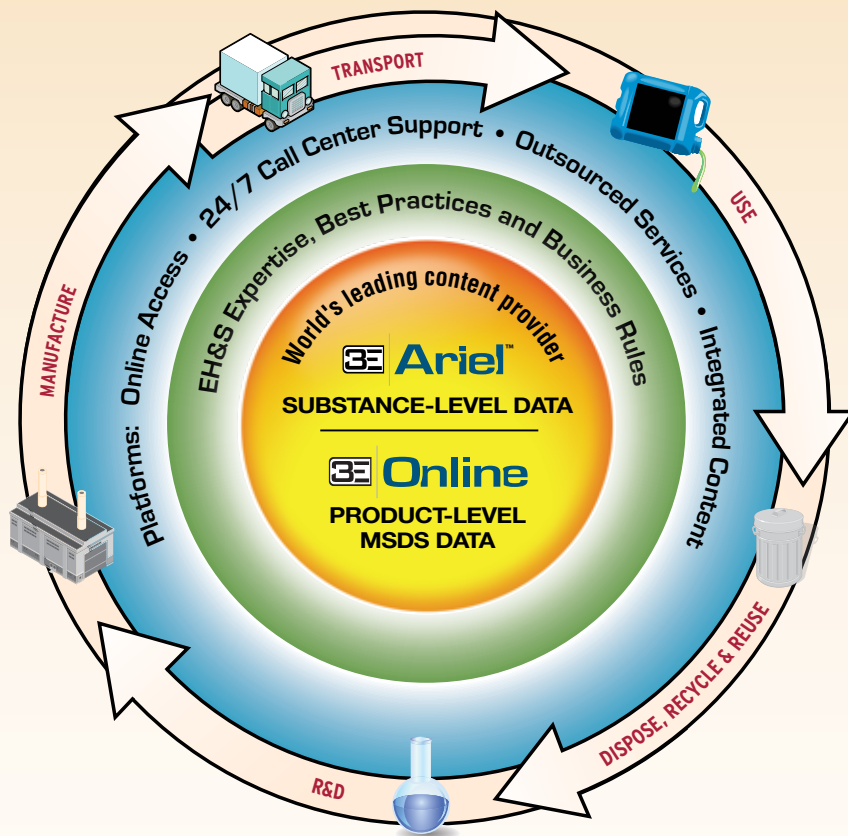
**Add-On:** For the printing of facility-level HazCom labels authored in MSDgen.

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## Full Chemical Lifecycle Management

3E Company's comprehensive suite of data products and information services enables improved compliance with global Environmental Health & Safety (EH&S) requirements related to the safe manufacturing, distribution, transportation, usage and disposal of chemicals and hazardous products. Whether you are a manufacturer, distributor, transporter, retailer or corporate user of chemicals or hazardous products, 3E can deliver a program specific to the EH&S compliance information and management needs of your organization that provides benefits to the entire enterprise and throughout the supply chain. 3E Company's full product lifecycle and supply chain approach provides a single, integrated solution for managing EH&S capabilities, resulting in reduced cost, risk and liability while improving business and compliance processes.



## EH&S Challenges

With the spotlight shining brightly on EH&S compliance, companies are challenged with finding effective ways to address the complexities and intricacies of EH&S compliance management. Not only do these challenges stem from a constantly-changing regulatory landscape, but also from a scarcity of newcomers to the EH&S field, and pressure on EH&S departments to manage increased responsibility with fewer resources. Addressing these issues requires broad and deep domain expertise—expertise that doesn't always exist within the company. And if it does, this expertise is probably best utilized by driving the company's overall compliance strategy, not bogged down with paperwork or the administrative burdens associated with maintaining compliance.

## EH&S Solutions

At 3E Company, we understand the business and the burden of EH&S information and compliance management. 3E Company is a comprehensive, one-stop solution for content, tools, and services for companies that want to take effective leadership and control of their product stewardship and EH&S compliance activities. 3E's products and services help companies make the transition from simply managing for compliance, to cutting-edge product stewardship practices that deliver tangible and sustainable business results.

## Locations

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