

CCS Relational Chemical and Product Database (R-CPD)

Chemical

Cross Reference Dictionary

- Chemical Names
- Common Names
- Foreign Names
- Numeric Identifiers

Physical/Chemical

- Elemental Composition
- Redox Potential
- Pka/Pkb
- Log Koc
- Log Kow
- Other Constants

Health

- Acute
- Chronic

Safety

- Incompatibilities
- Spill Codes
- Disposal Codes
- Storage Codes

Ecological

- Toxicity
- Pesticides
- Long-term Effects
- Persistence
- Exposure

Green

- Ecological
- Health
- Safety

Alternatives

- Acids
- Antioxidants
- Bases
- Binders
- Chelators
- Oxidizers
- Propellants
- Reducers
- Solvents
- Surfactants
- UV Absorbers
- Viscosity Agents
- Other (~30)

Eco-Risk

- Species Factors
- Wildlife Toxicity
- Dietary Considerations
- Ingestion Rates
- Bioconcentration
- Bioaccumulation
- Biotransfer

Regulatory

- U.S. EPA
- U.S. DOL
- U.S. DOT
- U.S. FDA
- U.S. Other
- States
- Canada
- Europe
- Pacific Rim
- International
- Compounds
- CCS Compiled

Product

- Manufacturers
- Composition
- Description
- Generic Categories
- Inventories
- Alloys
- MSDS Links

Human Health Risk

- Biotransfer Animals
 - Biotransfer & Concentration Factors
- Biotransfer Plants
 - Bioconcentration Factors
- Health Benchmarks
 - Cancer Slopes
 - Toxicity Equivalency
- Physical/Chemical Properties
 - Diffusivity
 - Partition Coefficients

Munition

- MIDAS Index Link
- OB/OD /IN Emissions
- Live Fire Emissions

For a free, remote demonstration of the CCS R-CPD, or any of our Web-based capabilities, call 973-663-2148 or send an e-mail to helpdesk@chemply.com

CCS Relational Chemical and Product Database (R-CPD)

CCS specializes in environmental, health and safety compliance, chemical security, and hazardous material risk assessment and management services for academic institutions, government agencies, and private industry. Our R-CPD is the most comprehensive database available. Our proprietary software modules utilize customized portions of R-CPD and generate truly unique, holistic, product analytical and compliance capabilities. CCS licenses customized databases and software modules as the “total solution” for our customers and maintains both databases and software systems on an ongoing basis. These capabilities can be utilized as separate, stand-alone services, or as capabilities linked to existing client systems. The net result of either approach is a faster, more comprehensive, and more defensible analytical compliance capability than previously thought possible. We accomplish the difficult routinely, the impossible takes a little more time!

R-CPD is a comprehensive hazardous materials repository consisting of an estimated 75,000,000 data elements for more than 275,000 chemicals and over 1 million chemical and munition products compiled from over 1,000 sources. This relational database is highly purified and has unique cross-functionality: a single source for materials risk assessment and management, environmental/ safety/ health, regulatory and security information. R-CPD is composed of the **Master Chemical Reference Data**, the **Master Regulatory Data**, the **Master Product Reference Data**, and the **Munition Items Disposition Action System [MIDAS] Index**, a government-owned database. R-CPD is used to quickly create the customized product and chemical databases used in our 33 Web-based software modules.

Master Chemical Reference Data

Cross Reference Dictionary Contains over 750,000 records of purified CAS numbers and their associated chemical identifiers, including chemical, common, trade, and regulatory names and numbers. This is the second largest chemical identification database available worldwide. This file facilitates accurate and complete materials management data searches and product substitution research.

Physical/Chemical Constants These values provide a centralized source of data used directly in risk assessments, or indirectly to calculate endpoints used in risk assessments. Our values are customer driven and are readily expandable.

Health Endpoints Acute and chronic health endpoints have been extracted from publicly available sources. Data sources are regularly monitored to identify new or changed values. Additional endpoints are also added upon customer request.

Safety Endpoints Our incompatible chemicals database is the largest currently available. Other Safety data elements include flammability, radioactivity, corrosivity, redox potential, water-reactivity and explosivity. Many of these endpoints are quantitative and are incorporated into chemical, product, process, and lifecycle hazard and risk assessments.

Ecological Endpoints Publicly available data for air, water and soil impacts are compiled in these tables. Some values have been calculated by CCS from physical/chemical parameters utilizing agency published algorithms. Endpoints include toxicity to biological entities in that media (e.g., earthworms in soil), pesticides, media-specific long-term effects, persistence, exposure and bioaccumulation.

“Green” Chemical Ratings The CCS chemical rating system utilizes a time-tested SOP and automates “green,” or “environmentally preferable,” chemical, process, product and munition analyses. This numeric, complete hazard rating system provides a basis for quantitatively defining acute and chronic health, air/water/soil ecological impacts, and fire, corrosivity, radioactivity, reactivity/explosivity special hazards associated with more than 275,000 chemicals. These ratings form the basis of our eight Web-based “green” analytical compliance modules for chemicals, products, munitions, processes, MSDSs, and chemicals of concern.

Alternative Chemicals CCS has identified over 40 generic categories of chemicals that include lists of alternative chemicals, their “green” ratings, regulatory impacts (upon 112 priority regulatory lists), and appropriate physical/chemical parameters so the user can assess equivalent functionality in efforts to improve the “greenness” of products, munitions and processes.

Eco-Risk CCS has compiled species-specific data and numerous algorithms from public sources that are combined with our physical/chemical data to estimate wildlife toxicity and bioaccumulation risks in the ecosystem from chemicals in the environment.

Human Health Risk CCS has compiled biotransfer factors for animals and plants, health benchmark data, and physical/chemical properties from public sources. These values are utilized to estimate risks for humans from chemicals in ecosystems.

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Master Regulatory Data

Regulatory List of Lists Our relational file is comprised of over 800 international, federal, state and local regulated chemical lists and their associated data, as well as numerous CCS compiled lists (e.g., carcinogens, incompatible chemicals, hazard classes, etc.). Our software modules compare a single chemical inventory file against these lists and generate a multitude of regulatory reports utilized by logistics, environmental/safety/ health, and chemical security professionals, as well as first responders. Redundant data management across departments is eliminated, resulting in significant labor savings to the client and accelerated systems implementation.

Chemical Compound Dictionary Several U.S. federal regulations (e.g., TRI, HAPs) require that compliance reports include chemical compounds (e.g., chromates). This database represents the only known resource for identifying which specific chemicals fall within each specific regulatory compound category. This dictionary correlates chemical names, synonyms, and CAS numbers for over 4,000 chemicals within nearly 60 different chemical compound categories.

CCS Compiled Different agencies often include different chemicals in their hazard category lists (e.g., carcinogens, reproductive toxins, neurotoxins, corrosives, VOCs, etc.). We have combined the various source lists into all-encompassing chemical lists for each of these hazard categories.

Master Product Reference Data

Manufacturers CCS has compiled the largest, purified chemical product manufacturers table currently available. Over 265,000 reference details have been accumulated for nearly 10,000 different manufacturers. We know what address retrieves the MSDS, in contrast to the address for the product manufacturing site. We have compiled name changes from corporate buy-outs, through the generations, or from mergers. We even have Cage Numbers for our government clients. This database is invaluable for cost effectively identifying the source for a current MSDS, for a discontinued product MSDS, or for kit parts MSDSs.

Composition CCS has compiled over 3,000,000 specific descriptors for the 300,000 product components in this file, and has utilized our purified Cross Reference Dictionary to correct the 20-25% errors in manufacturer MSDS component information, thereby providing a highly purified resource. The purified CAS numbers in this file are the initial linkage between our massive **Master Product Reference Data**, our highly specific **Master Chemical Reference Data**, and our **Master Regulatory Data**.

Description Our product description file is the single largest table in our entire database. The 6,900,000 unique identifiers (from NSN to Product Name, and beyond) provide the means for accurately identifying and evaluating the chemical product items represented in this table. This file enables CCS to easily correlate product MSDS and container names, unlike most other resources that utilize only the MSDS name. Relational linkages to Product Composition, Manufacturers files, and MSDS Images provide a multi-dimensional analytical capability.

Alloys CCS has compiled constituents, and type, grade, class and style for approximately 6,000 alloys We have also included the military specification number as available. The elemental constituent data is particularly valuable for risk assessments in certain exposure conditions.

MSDS Links Many chemical and product manufacturers have posted their current MSDSs on line. Linkage to these resources enables CCS to provide any of our hazards, "green," or risk assessments on manufacturer chemicals and products.

Munition Items Disposition Action System (MIDAS) Index

MIDAS is a government-owned munitions characterization database available as an index to CCS. MIDAS identifies munition components, parts, materials, chemicals and elements in each characterized munition. CCS has provided munition characterization support services to the government since 1999. Thus, the enhanced MIDAS capabilities not only provide the most accurate munitions information available for recycling, recovery, reuse and disposal of unwanted munitions, and for range assessments, but also now provides information for security, environmental, occupational health and safety compliance and risk assessments

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