# <section-header>

Spend less time iterating and more time innovating with CAS



## Formulation science is a critical component of development

Formulation science is a make-or-break step that often determines whether a product will make it to market. While this step is essential, it can take as much as 60% of lab time and is often labor intensive and costly.

#### 10 years and \$3-5 billion

Average development time and cost of a new drug in pharma<sup>1,2</sup>

#### 2-7 years

Average development time of a product line extension in specialty chemicals<sup>3</sup>

## CAS Formulus is the only formulation solution that simplifies the development process

For more than 100 years, formulation scientists have relied on CAS tools and expertise to power innovation. This inspires everyday breakthroughs and lifechanging science.

#### CAS Formulus helps overcome common obstacles, such as:

#### **Disparate data sources**

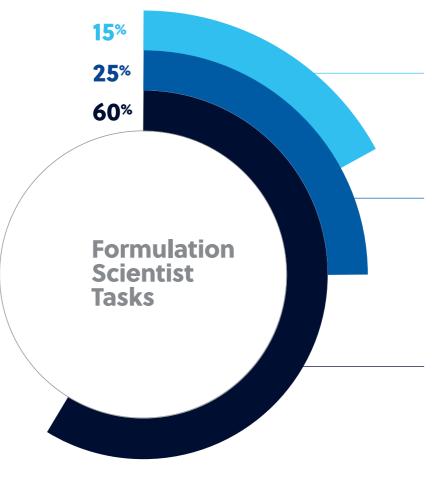
Spending time searching online, other formulation tools, and supplier websites

#### Insufficient content

Only using small data libraries and formulations that are not indexed

#### **Unscalable requirements**

Reading heavily to find information in patents and journals



Significant time



#### **Time Spent Per Step** Admin

Online Research

Determine formulations and project goals



Gather data

#### Lab Experiments and Development

Prep samples for testing

Conduct experiments on solubility, shelf life, etc.

Assess results: which factors need to be improved, which ingredients need to change

Research to determine how to change formulations





Limited time



### CAS Formulus provides better data before you enter the lab

Formulation scientists need to quickly gain knowledge and insights from existing formulations. CAS Formulus was designed for ease of use by searching formulations in an intuitive display. The interface provides the ability to view formulation details, explore ingredients grouped together, and understand the effectiveness of formulations.

CAS Formulus is a comprehensive formulations database and workflow solution that enables development of products with maximum efficiency.

#### Fast

>70% of formulation scientists agree that CAS Formulus allows them to narrow their focus more quickly and get up-to-speed on new products.

#### Efficient

CAS Formulus brings together information from multiple sources into a single solution that increases formulator efficiency and effectiveness.

#### Comprehensive

CAS Formulus brings the formulations found in journal articles, patents, and product inserts directly into your search results for reliable evaluation.

#### "CAS Formulus helps to identify competitor work and reduces formulation time."

R&D manager/Team leader, Fortune 500 chemical company TVID: 572-436-2C2

#### **Formulation discovery**

Other solutions do not offer searching across data sources. This results in a significant amount of time spent trying to piece together information to achieve an expected outcome. With the world's largest source of published formulation data at your fingertips, you can quickly assess published formulations in your market and begin innovating faster. The interface lets you view formulation details, explore ingredients, understand effectiveness, and identify chemical suppliers.

5 D	iphenhydramine	Liquid:	Allergy	Inhibitors				
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Purpos	e	Target		Delivery Route		Physical Form		Source
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ormu	lation Ingredients							
Component			Function		Amount Reported	Optionality		
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Process

Source Patent



#### **Formulation Designer**

The Formulation Designer tool in CAS Formulus allows you to leverage prediction capabilities to generate formulation templates based on selections for industry, purpose, physical form, and active/ featured ingredients. The tool's visual layout displays the top choices for the next criteria, enabling you to easily adjust your selections. Input your desired unit size and receive suggested ingredient approximate amounts.

ndustry	Purpose	Physical Form	Add up to 5 Ingredients
Pharmaceutical Cosmetics & Personal Care Agrochemical Cleaning & Surfactant Products Food & Related Inks, Paints, & Coatings	Cosmetics and Personal care products Skin conditioners Sunscreens Hair dyes Hair preparations Antiperspirants Cleaning compositions Skin-lightening cosmetics Skin cleanses	Cream preparations Cosmetic lotions Emulsions Liquids Gels Oil-in-water emulsions Cosmetic gels Cosmetic packs Solutions Skin cleansers - View More Physical Forms -	Add Another Ingredient

89% of surveyed organizations said they began realizing ROI with CAS Formulus in less than three months.

\*TechValidate survey of Formulus users TVID: E1E-89B-9B3

#### Efficient

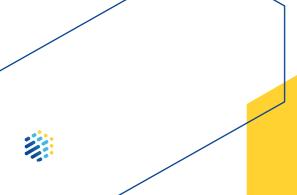
Searching through journal articles, patents, and product inserts can be tedious. CAS Formulus brings together information from multiple sources, including supplier, regulatory, and substance data in one solution to increase your efficiency. Suppliers (66)

Results for Diphenhydramine CAS RN: 58-73-1 Enamine US Inc. View Details Product Information Nam [2-(dipheny Aaron Chemicals LLC View Details Product Information Ethanamin Name dimethyl-ChemScene LLC View Details Product Information Name: Diphenhyd Certificate of yes Analysis: Hazard H302, H315

#### Comprehensive

A single source for formulation patent, regulatory, toxicity, supplier information, and fulltext literature, CAS Formulus allows your team to optimize lab operations, spending less time iterating and more time innovating.

CAS RN: 58-73-1	Diph
	Key
CH3	Mol
CH <sub>0</sub>	Melt
	Boil
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C <sub>17</sub> H <sub>21</sub> NO	Sim
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dramine			Order from Supplier 🕫
	100 g	USD 503.00	Ships Within: 1 week
	10 g	USD 150.00	Status: Maintained in stock
15, H319, H335	25 g	USD 252.00	

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nenhydramir		Value	Condition				
/ Physical Properties		255.35	-				
lting Point (Experimental)		168 °C	-				
ling Point (Experimental)		150-165 °C	Press: 2.0 Torr				
mmonly Used As: Antihistamines; Antipruritic agents; Histamine H1 receptor antagonists; Anesthetics; ergy inhibitors							
illar Ingredients with Regulatory Information							
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CAS connects the world's scientific knowledge to accelerate breakthroughs that improve lives. We empower global innovators to efficiently navigate today's complex data landscape and make confident decisions in each phase of the innovation journey. As a specialist in scientific knowledge management, our team builds the largest authoritative collection of human-curated scientific data in the world and provides essential information solutions, services, and expertise. Scientists, patent professionals, and business leaders across industries rely on CAS to help them uncover opportunities, mitigate risks, and unlock shared knowledge so they can get from inspiration to innovation faster. CAS is a division of the American Chemical Society.

#### Connect with us at cas.org

#### Leaders across R&D organizations rely on CAS



#### References

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