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BVR Staff:

Publisher: Sarah Andersen

Managing Editor: Monique Nijhout-Rowe

Chair and CEO: David Foster

President: Lucretia Lyons

Chief Revenue Officer: Lisa McInturff
Customer Service Manager: Retta Dodge

ISBN: 978-1-62150-141-1

Library of Congress Control Number: 2017955806

ktMINE Staff:

President & CEO: David R. Jarczyk Director of Operations: John Wiora

Data Analyst: Megan Rourke

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Foreword

'With the BVR/ktMINE Royalty Rate Benchmarking Guide, 2017-2018 Global Edition, we continue our effort to improve market transparency and strengthen deals by demonstrating the impact royalty rate data has on valuation and expert analyses.'

> David R. Jarczyk President and CEO, ktMINE

I am delighted to present the BVR/ktMINE Royalty Rate Benchmarking Guide, 2017-2018 Global Edition. This guide provides a comprehensive report on global licensing royalty rates and an analysis of value within specific industries. ktMINE collected and analyzed royalty rate information published in the public domain between 2006 and 2016 for the basis of this guide.

Acknowledgments

In response to the abundant feedback we received regarding previous editions of the BVR/ktMINE Royalty Rate Benchmarking Guide, ktMINE and BVR recognize the need for continued industry analysis on royalty rates. Disproving the myth that global royalty rate information is not available, we developed this report on industry-level licensing and royalty rate trends to provide greater valuation insights.

Comprehensive Source

ktMINE is dedicated to providing the most recent filings from the public domain while maintaining the most comprehensive repository of intellectual property (IP) data. These filings contain agreements with effective dates ranging from the current year to several years in the past. For instance, an agreement can be filed today but have an effective date from five years ago. This is often the case for agreements that have recently become material or are maintaining their materiality. Thus, prior-year results will change due to this phenomenon, and the variations in the data presented in different editions of the guide can be attributed to this.

Intellectual Property Driving Corporate Value

As the Economics & Statistics Administration and the United States Patent & Trademark Office reported in 2016, the total value IP-intensive industries added amounted to 38% of U.S. GDP. In a similar study the European patent office conducted, 42% of total economic activities in the EU can be attributed to IP-intensive industries. The rising impact of IP on corporate value has driven corporations to focus on the competitive advantages offered through the ownership, utilization, and commercialization of strategic IP portfolios.

With so much opportunity at stake, striking the right balance between IP exploitation and protection is an increasingly key business objective for many organizations. Yet even the fundamental step of deriving an accurate IP portfolio valuation can pose a significant challenge due to insufficient transactional insight and/or lack of a clear-cut methodology for analysis.

Market Evidence Strengthens Deals

The BVR/ktMINE Royalty Rate Benchmarking Guide, 2017-2018 Global Edition, was developed to help analysts seeking clarity in this new valuation frontier. The industry insights in this guide are meant to improve transparency from licensing transactions in a global marketplace that is often murky. The statistics in this guide are best used as a starting point in questioning the selection of royalty rates and should be counterbalanced by analyzing the specific market, industry, and other factors pertinent to the particular IP under examination. As referenced in recent court cases such as Amazon v. IRS and StoneEagle Services Inc. v. Pay-Plus Solutions, Inc., supporting evidence is imperative to strengthen and defend your analyses. The information provided here is not intended to replace thorough economic analysis; rather, it is meant to serve as an aggregated, big-picture indication of trends within industries. Relying purely on industry trends without an understanding of the underlying data leaves analyses open to scrutiny.

ktMINE and BVR release the BVR/ktMINE Royalty Rate Benchmarking Guide, 2017-2018 Global Edition, in the continuous effort to improve market transparency by demonstrating the impact royalty rate data has on valuation and expert analyses. Our ultimate goal is to help IP owners and stakeholders strengthen deals across the globe.

David R. Jarczyk President and CEO, ktMINE





Info About ktMINE

1. Overview

ktMINE is a leading intellectual property (IP) data and analytics platform. It is the only platform that finds, connects, and analyzes IP data, simplifying the research process, minimizing research time, and maximizing analysis power. ktMINE is the most comprehensive repository of IP data, including license agreements, royalty rates, patents and assignments, trademarks and assignments, M&A deals and rumors, patent court cases, IP connections, IP portfolios, corporate trees, and IP news. By aggregating IP in a single location, ktMINE is able to make connections across data sets and create custom applications for a broad range of research needs.

The ktMINE Royalty Rates application provides direct access to royalty and market rates, full text license agreements, and detailed agreement summaries. Finding comparable royalty and market rates has never been easier. Quickly find and analyze market comparables from over 17,000 unredacted IP license agreements with over 65,000 royalty rates.

A team of valuation and transfer pricing professionals who had spent valuable time hunting for the right market comparables envisioned and developed ktMINE. In search of a faster, more efficient process, they joined together to create the world's most robust repository of license agreements and royalty rates. Through a proprietary process, ktMINE technology searches the public domain for relevant data. Using a 30-point-plus checklist, ktMINE expert analysts review the data and enter IP license agreements, patents, and trademarks from publicly available sources, such as the SEC, into their vast repository of IP data. While available agreements may contain redacted information, ktMINE expands their data through obtaining unredacted documents from Freedom of Information Act (FOIA) requests. Each document is analyzed to ensure it contains royalty rate data and has associated

keywords that reflect the true context of each agreement. Additional checkpoints include effective date, industry, rights granted, and more.

2. Accessing the Data

Business Valuation Resources distributes ktMINE, which can be found at www.bvresources.com/ktMINE. Analysts can also access more information about the database at the same website. Access to the database can be purchased as a 24-hour pass or as a subscription. Prepaid accounts are available. The ktMINE database is accessed through a portal at www.bvresources.com/ktmine. For further information, you may call, fax, email, or mail us as follows:

> Phone: 503-479-8200 Fax: 503-291-7955

Email: sales@bvresources.com

Mail: **Business Valuation Resources**

111 SW Columbia Street, Suite 750

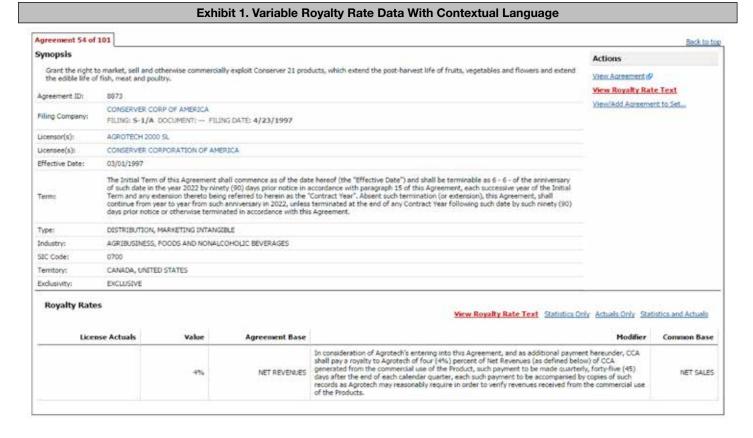
Portland, OR 97201

3. Sample Transaction Report

A typical "transaction report," called the "results summary" in ktMINE, consists of an analysis of each agreement found within a search set. The analysis contains a synopsis of the agreement, written by a ktMINE analyst, and a list of the search criteria assigned to that agreement. (See the following pages for further discussion of the available search criteria.) In addition, the variable royalty rate data in each agreement in the search set are extracted, with contextual language from the agreement provided. Exhibit 1 is a typical results summary. It represents one agreement in a search set of 101 such agreements. The results summary in each of the 87 agreements follows the same format.







4. What Is Included in the Transaction Data?

ktMINE's data repository houses thousands of public agreements and contains license agreements, as well as service contracts, referral agreements, and more. ktMINE users can run unlimited searches and see unlimited results, which include all royalty rates and full text for various agreement types, including:

- Patent agreements;
- Know-how agreements;
- Process agreements;
- Trademark agreements;
- Trade name agreements;
- Copyright agreements;
- Cross-license agreements;
- Joint development agreements;
- Distribution agreements;
- Sales agent agreements;
- Franchise agreements;
- Advertising agreements;
- Service agreements; and
- Software agreements.

5. General Steps to Follow When Using the Data

- All searches for royalty rates in ktMINE begin at the Search Center page, and most begin with a determination of "Agreement Type" and "Industry." (See Exhibit 2.)
- Searches can be narrowed by SIC, effective date, licensor and licensee, exclusivity, and keyword.

As search criteria are added, researchers can follow the effects on the results of each. (See Exhibit 3.)

As an example of this process, Exhibit 2 and Exhibit 3 show how these filters are used. Beginning with the "Agreement Type" filter, a researcher can select "Marketing Intangible" to filter his or her results to 5,223. Adding keyword "Agribusiness" to the search reduces the search set to 101 agreements. Note the circled column in Exhibit 3. Once a second step is added to a search, a Boolean option is added. A researcher could have chosen "And Not" Agribusiness in this example.





Exhibit 2. ktMINE Search Filters

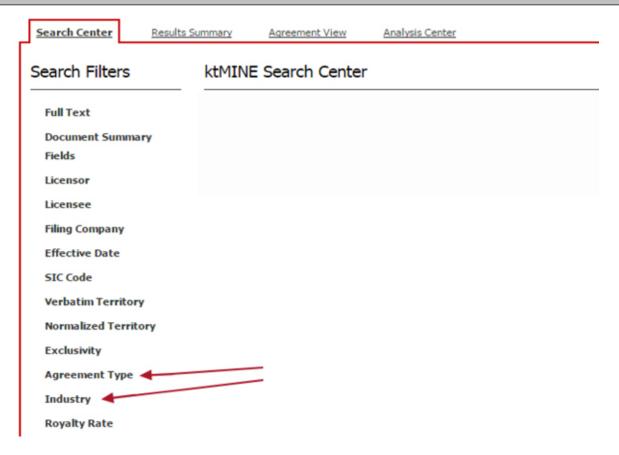
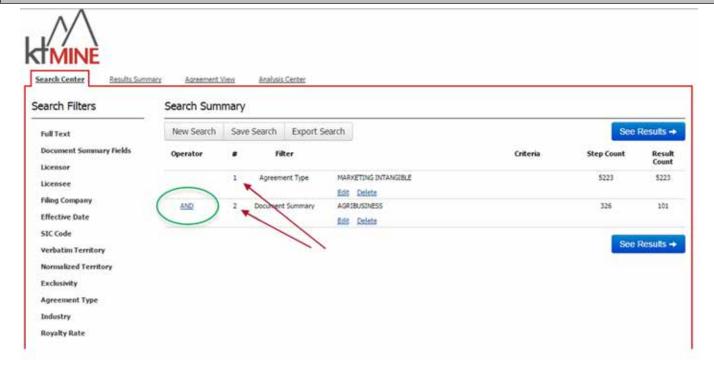


Exhibit 3. Effects on the Results of Each Search Criterion



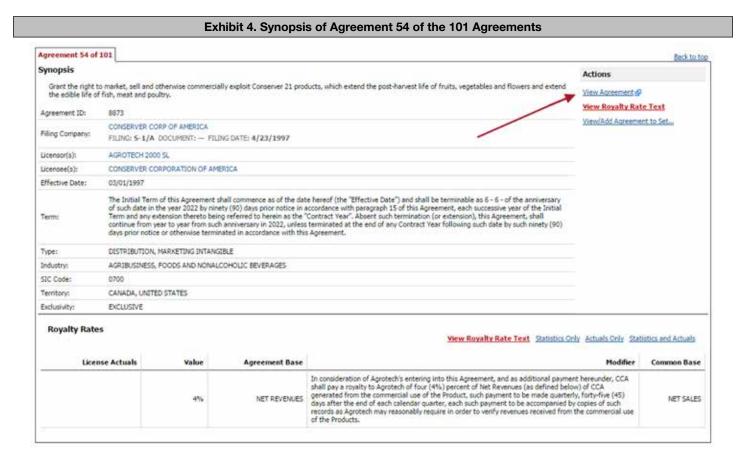




6. Gathering Transaction Data for a **Valuation Assignment**

Once an analyst has refined a search to a manageable number of agreements, summaries of those agreements are one click away. In the above example, marketing intangibles in agribusiness, we know 101 agreements match the search criteria. The Results Summary tab yields summaries for those 101 agreements, with each summary including a synopsis of the agreements, a list of all of the search filters assigned to the agreement, and an extraction of royalty rate data.

Agreement 54 in the set of 101 agreements can be seen in Exhibit 4.



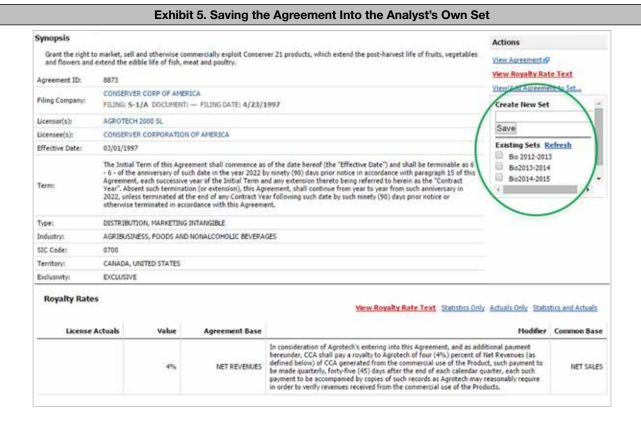
If this agreement is interesting or relevant to the analyst, one click produces the full text of the agreement. Key point: ktMINE is a Web-based system, and, therefore, the Find function on your browser (Control + F) allows you to efficiently search the full text of the agreement for relevant royalty rate information, terms, milestone arrangements, etc.

If the agreement works as a comparable for the analyst, he or she can create a folder in which to save the document and its summary. The best way to look at it is computer logic got the analyst to the 101 agreements; the analyst's judgment and expertise need then be applied.

Again, looking at Agreement 54, the analyst can create his or her own set and save the agreement into that set by accessing the circled area as shown in Exhibit 5.

Full text is printable for documentation.





Finally, analysts can enlist the help of ktMINE's Analysis Center for a look at the royalty rates in a search set,

analyzed by quartiles. It is not uncommon for analysts to copy and paste these data into reports.

Exhibit 6. ktMINE's Analysis Center







Determine Existence of Market Royalty Rates Internal Market **External Market Royalty Rates Royalty Rates Assess Comparability** Interdependent Comparability Factors Business Relationship Functions & Risks Born Profit Uniqueness Between Potential by Licensor of IP Licensor & vs. Licensee Licensee Rights to Receive Updates & Exclusivity & Territory & Duration Restrictions Field of Use Modifications **Establish Defensible**

Market Royalty Rates

Exhibit 7. Finding and Analyzing Royalty Rates



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Industry Royalty Rates

Alternative and Renewable Energy

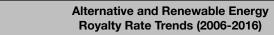


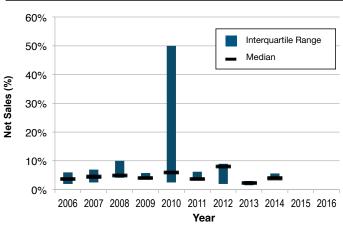
Includes:

- Alternative energy, defined as energies that are nontraditional and have low environmental impact
- Solar power
- Wind power
- Hydroelectric power
- Biofuels
- · Products, equipment and software used by this industry's establishments
- Other related products and activities

Highlights:

- · Licensed rights range across many industries including:
 - Biomass-derived fuels and energy
 - Solar panel technology
 - Water and waste desalination
 - Electric car batteries.
- · Gross sales and net sales royalties are utilized nearly equally among manufacturing/process intangible agreements.
- · Service agreements commonly utilize cost-based royalty rates.
- · Distribution agreements have the lowest royalty rates among all agreement types.
- There are similar royalty rates as a percentage of sales for marketing or manufacturing/process intangible agreements, with median rates around 5% of net sales.
- · Cost-based royalties are most commonly used among agreements made in the United States.
- A large number of agreements are also included in the "Business Services" industry.
- Sublicense agreements are more commonly used among worldwide territories.

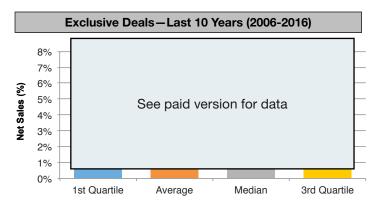




	Lower Quartile	Upper Quartile	Median
2006	/	2 2 2 4	
2007			
2008			
2009			
2010			
2011	See	paid version for	data
2012			
2013			
2014			
2015			
2016	19// \	14/71	IN//

^{*}Yearly percentages at "0," indicate insufficient data for analytical purposes.

Deal Type

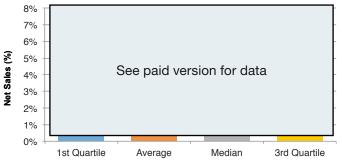






Agreement Type

Alternative and Renewable Energy Marketing Intangibles - Last 10 Years (2006-2016)

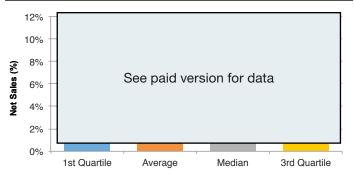


License for the right to utilize a combination of manufacturing/process intangibles and marketing intangibles.

License for the right to utilize intangibles such as:

- Trademarks;
- Copyrights;
- Trade names;
- Service marks; and
- Trade dress; Logos.

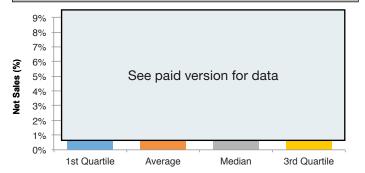
Alternative and Renewable Energy Patent/Technology Intangibles - Last 10 Years (2006-2016)



License is likely to grant the right to use any of the following in the manufacture of a product:

Patents:

- Recipes;
- Processes;
- Formulations; and
- Know-how:
- Training materials.
- Technical information;
- **Alternative and Renewable Energy Combination**

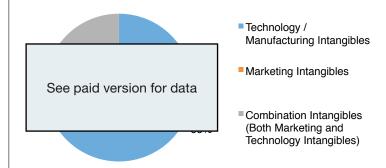


Intangibles - Last 10 Years (2006-2016)

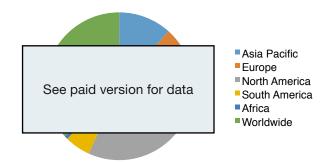
License for the right to utilize a combination of manufacturing/process intangibles and marketing intangibles.

Median Royalty Rate: 4.5% of Net Sales (% of net sales, 11-year median for exclusive deals)

Agreement Type Analysis



Territory Analysis





Summary Agreement for Alternative and Renewable Energy Industry

Synopsis

Grant the right to utilize the Licensed Technology (Patents and Proprietary Materials) to develop, have developed, manufacture, have manufactured, import, export, use, market, offer for sale, sell, have sold and otherwise commercialize and exploit the Licensed Products in the field of (i) consumer electronics including without limitation, wearable electronics, mobile phones, smart devices and electric batteries, including rechargeable and non- rechargeable batteries; and (ii) electric vehicles.

Agreement ID:	106601
Filing Company:	BLUE SPHERE CORP. FILING: 8-K DOCUMENT: EX-99.1 FILING DATE: 11/5/2014
Licensor(s):	NANYANG TECHNOLOGICAL UNIVERSITY (SINGAPORE)
Licensee(s):	BLUE SPHERE CORPORATION
Effective Date:	11/03/2014
Term:	Perpetual
Type:	MANUFACTURING/PROCESS INTANGIBLE
Industry:	ALTERNATIVE AND RENEWABLE ENERGY, ELECTRIC UTILITIES, ENVIRONMENT AND WASTE MANAGEMENT
SIC Code:	7370

Actions

View Agreement_®

View Royalty Rate

View/Add Agreement to <u>Set...</u>

Royalty Rates

WORLDWIDE

MULTI-EXCLUSIVITY

Territory:

Exclusivity:

View Royalty Rate Text Statistics Only Actuals Only Statistics and Actuals

License Actuals	Value	Agreement Base	Modifier	Common Base
	3,5%	NET SALES	In addition to any milestone payments, Licensee will pay to NTU royalties in respect of all sales, leases or other transfers of Licensed Products during the Term of this Agreement, such amounts to be exclusive of any applicable GST payable by Licensee on such royalties, at the following rates: (a) three and one half percent (3.5%) of Net Sales of Patented Licensed Products; and (b) three and one half percent (3.5%) of Net Sales of Other Licensed Products.	NET SALES
	3.5%	NET SALES	In addition to any milestone payments, Licensee will pay to NTU royalties in respect of all sales, leases or other transfers of Licensed Products during the Term of this Agreement, such amounts to be exclusive of any applicable GST payable by Licensee on such royalties, at the following rates: (a) three and one half percent (3.5%) of Net Sales of Patented Licensed Products; and (b) three and one half percent (3.5%) of Net Sales of Other Licensed Products.	NET SALES

Sublicense Actuals	Value	Agreement Base	Modifier	Common Base
	15%	SUB-LICENSE	In addition to any milestone payments, Licensee will pay to NTU royalties in respect of all sales, leases or other transfers of Licensed Products during the Term of this Agreement, such amounts to be exclusive of any applicable GST payable by Licensee on such royalties, at the following rates: (a) three and one half percent (3.5%) of Net Sales of Patented Licensed Products; and (b) three and one half percent (3.5%) of Net Sales of Other Licensed Products.	NET SALES



ktMINE Royalty Rates

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ktMINE Royalty Rates provides an organized gateway to canvass the landscape of IP licensing payments and terms. Full licensing details are captured and complete license agreements are viewable to enable thorough due diligence.

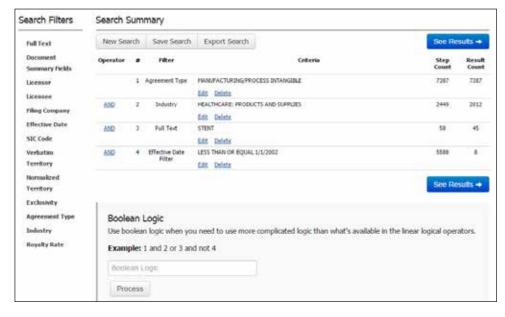
Advantages

- Unlimited access to full intangibles licensing agreements for each summary
- Ability to quickly locate relevant information
- ▲ Full royalty and market rate detail that can be integrated into analysis models
- Access to the same intangibles licensing data and documentation used by many government agencies and tax authorities across the globe
- Access to hard-to-find compensation terms such as cost-plus and profit-split payments
- ▲ Complete royalty rate detail, including all tiers

Data Coverage

- Over 60,000 royalty and market rates, representing nearly 16,000 intangible license agreements
- Agreements representing cross-border licensing rights, including Manufacturing and Marketing intangibles, Software, Service, Asset Purchase, Distribution, Franchise, Joint-Development and Cross License licensing terms
- Over 200 countries represented in licensing territories
- Licensing records continually added, with the most recent filings added first

ktMINE Search Center



- Begin by combining any number of search filter criteria
- ▲ Use Boolean logic conditions to further refine your search
- View number of search results before viewing Results Summary

ktMINE Royalty Rates

Presented by Business Valuation Resources





Key agreement details are captured and made available in one convenient location for more efficient analysis.

Synopsis				
proprietary sten Products) sell, o and to otherwise	t-on-a-wire iffer, distrit practice	stent delivery system rute, market, import an the technology related	d the Licensed Processes and any improvements thereon made by Svelte Medical Systems, Inc. relating to medical devices and the Svelte helical stent, with the right to use, make, have made, (including the right to have a third party to manufacture of export the Licensed Products (inspire/MD Ltd.'s RX stent delivery catheter with the Svelte helical stent and inspire/MD Ltd to the Svelte helical stent and the Licensed Patients and Licensed Processes, for the purposes of this Agreement as well as idensed Products in the Territory.	the Licensed d.'s mesh covering)
Agreement ID:	69505			
	INSPI	REMD, INC.		
Filing Company:	FILIN	8-K DOCUMENT E	EX-10.13 FILING DATE: 4/6/2011	
Licensor(s):	SVEL	E MEDICAL SYSTEM	IS, INC	
Licensee(s):	INSPI	REAMD LTD.		
Effective Date:	03/19/	2010		
Term.			provided in this Agreement, the License shall extend until the expiration, abandonment or invalidation of the last to expire, interest that is material to the License.	abandoned or
Type:	MANU	FACTURING/PROCE	SS INTANGIBLE	
Industry:	HEAL	THCARE PRODUCTS	AND SUPPLIES	
SIC Code:	1000			
Territory:	UNITE	D STATES, WORLD		
Exclusitivity:	MULT	EXCLUSIVITY		
Royalty Rates			Niew Royalty Rule Text Statistics Cely Actuals Only	Statistics and Actuals
License Actuals	Value	Agreement Base	Modifier	Common Base
	7%	NET SALES	Licensee shall pay Licensor a royalty in the aggregate amount of seven percent (7%) of Net Sales (the "Worldwide Royalty") actually received by Licensee from the sale of any Licensed Product in any country other than the United States.	NET SALES
	. 2%	NET SALES	Licensee shall pay Licensor a royally equal to the sum of (i) seven percent (7%) of the first US\$ 10,000,000 of Net Sales resulting from the sale of any Licensed Product in the United States, and (ii) ten percent (10%) of Net Sales for all amounts of Net Sales resulting from the sale of any Licensed Product in the United States in excess of the first \$ 10,000,000 of Net Sales.	NET SALE:
	10%	NET SALES	Licensee shall pay Licensor a royalty equal to the sum of (i) seven percent (7%) of the first US\$ 10,000,000 of Net Sales resulting from the sale of any Licensed Product in the United States, and (i) fen percent (10%) of Net Sales for all amounts of Net Sales resulting from the sale of any Licensed Product in the United States in excess of the first \$ 10,000,000 of Net Sales.	NET SALE

View the big picture of your data set with Analysis Center.



Analysis Features

- Organize projects by client and engagement
- ▲ Combine multiple searches to find the best intersection of comparables
- ▲ Accept and Reject individual agreements
- Select individual royalty rates and rights by agreement
- Archive prior projects for backup and easy updates

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- Public Stats
- BIZCOMPS
- PitchBook Guideline Public Company Comps Tool
- Economic Outlook Update
- Factset Mergerstat/BVR Control Premium Study
- Stout Restricted Stock Study™
- Valuation Advisors Discount for Lack of Marketability Study
- ktMINE Royalty Rate Data & License Agreements
- First Research Industry, State & Province Profiles
- BizMiner Industry Financial Reports
- Mergerstat Review & Mergerstat Review Monthly
- Valuation Handbook Risk Premium Toolkit
- Valuation Handbook U.S. Guide to Cost of Capital
- Valuation Handbook U.S. Industry Cost of Capital
- Valuation Handbook International Guide to Cost of Capital
- Valuation Handbook International Industry Cost of Capital
- Butler Pinkerton Calculator Total Cost of Equity and Public Company Specific Risk Calculator

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