Trade Secret Protection and the Biofuel Industry

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Trade Secret



- A Trade Secret is (definition varies slightly by state):
 - Information, including a formula, pattern, compilation, program, device, method, technique, or process, that:
 - Derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use; and
 - Is the subject of efforts that are reasonable under the circumstances to maintain its secrecy

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Advantages of Trade Secrets

- No formal process to obtain; immediate protection
- Technical, business and other valuable information protectable
- Can be protected indefinitely (e.g., Coca-Cola recipe), but protects only against misappropriation
- Low cost protection (normally), i.e., the cost of measures instituted to maintain secrecy
- Difficult to exploit, but under proper protections can be licensed/assigned to third parties
- With certain limitations by country, can be effective anywhere in the world (unlike national limits of U.S. patent)
- Protected via injunction, attorney's fees, damages (e.g., "lost sales / profits" damages for time needed had competitor developed secret independently)



Disadvantages of Trade Secrets

- Rights lost when secrecy ends, as
 - Might be developed independently by others
 - Might be legitimately reverse-engineered by a competitor
 - Might be inadvertently disclosed
- Must institute and regularly maintain "reasonable" protective measures (representative list to follow)
- The more people who know the secret, and / or the more likely of its being reverse-engineered, the greater the chance of losing it



Representative Biofuels-Related Trade Secrets

- Altered fermentation / filtration process steps
- Process control ranges (temperatures, concentrations)
- Special pre-treatment of a catalyst to extend its useful life
- Design drawings of special material handling infeed unit, for pre-treating raw biomass



• Improvements to permit "plug in" integration of one known biofuel technology with another old one





Representative Biofuels-Related Trade Secrets (Cont'd)

- 5-year product marketing plan for a gasification facility
- Identities / process capabilities of the ten best "coprocessing" enzymes, out of 5000 tested
- GPS location coordinates for foreign source of highly successful biobutanol process-enhancing fungi
- "Improvements" to old biofuel technologies can protect as trade secrets the incremental or substantial enhancements to old, public domain technologies
- "Improvement" type innovations to a cellulosic biomass process, as created after a "master / primary" patent application filed, including of any special "know how" later learned



Scientific/Technical Information:

• Laptop computers out in field



 Formulae / "recipes"/ chemical compositions / blending specifications / process sheets



- Lab notebooks
- Ingredient lists, e.g., custom / non-standard reagents
- Designs / blueprints / plans / schematics / CAD files
- Operating procedures / process standards / ranges
- Internal manufacturing procedures
- Material specifications and/or sources (e.g., special ingredient supplier names and grades)

- Scientific/Technical Information (*Cont'd*)
 - Purity specifications (e.g., avoid greater than X level of impurity Y to improve yield and/or purity of product made by process)
 - Product measurements / design tolerances





- NIR spectometry data
- Computer software /code
- Unpublished patent applications, including any "secret" not-to-be published applications, where have filed petition not to file foreign

Compilations of **business** information, including:

- Note: The more specialized the business information, and harder to create, the more likely it will be protected, versus more readily ascertainable information
- Vendor lists, *e.g.*, sellers of hard-to-find catalysts
- Pricing

Confidential 5-Year Plan

- Strategic development plans (5-year plans; plant acquisitions; new product line / extension)
- Marketing plans and demographic studies





- Compilation of data (collection / maintenance of business information, over many years, at much effort and expense), *e.g.*, customer lists
- Supplier lists, *e.g.*, names of area biomass producers / growers / waste generators under contract
- Details of customer / supplier relationships (buying preferences / requirements / identity of decision-makers)
- Terms of contracts / sales (commissions; fees)
- Financial information: revenue projections; internal cost structure; gross profits by facility site

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- Ongoing biofuel innovation / R&D activities, especially where R&D has long time frame
- Positive information: ideas / approaches / tests that work better
- Negative information: via R&D activities, those identified ideas / approaches / tests that did not work, or work as well. <u>Caution</u>: not recognized by all courts



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- Unusual or excessive employee (with no need-to-know) downloads of company confidential information, or of unusual e-mail activity, e.g., during weeks prior to departure to biofuel competitor
- Training / safety materials
- Business methods that may not rise to level of "patentable" subject matter, or are "obvious", but which can be maintained as trade secrets



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- Must take ongoing "reasonable steps" to protect trade secret, and related equipment, documents, and files, which steps (protection program) can vary by circumstances / industry / type of trade secret involved
- Examples can include:
 - Have a trade secret policy; provide to all employees; educate staff; provide periodic re-training



- Limited access to only those with a "need to know"
- "Restrictive" contracts (employment; non-disclosure; confidentiality; non-compete; non-solicitation or "anti-raiding" of employees; licenses)

• Examples (cont.):



- Use checklists to ensure execution of proper agreements with employees, and third parties
- Facility security (video surveillance; security codes / badges)
- Guarded behind sets of locked doors; separate off by industrial curtains; log-in procedures; sign-in / out sheets





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- Examples (*Cont'd*):
 - Publications (pre-release review of employeecreated materials)



- Information systems security and document control (controlled copies; network security; lock & key; password protection; firewalls; filters)
- Prepare a "compliance plan"



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- Divide up trade secret into sections / components, so those needing to know, only know a given part of it, not all of it
- Annual employee review / sign-off / certification of trade secret obligations



- Prohibition of cameras / camera cell phones
- Ask chemical suppliers to use secret, unique product code numbers / names for chemicals sold you (even if same products freely sold to others)

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- Visitors required to receive clearance
 - Be escorted by a guard
 - Prohibited from taking pictures
 - Sign non-disclosure agreements
- Restrictive "confidential and proprietary" notices for documents / data / things (*e.g.*, labels, legends, signs, fences, walls)
- Seek return / destruction when trade secret information no longer needed (disposal / shredding to eradicate confidential information)

by a guard



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- Employee handbook (notices / warnings)
- Screen new employees for pre-existing trade secret Handbook obligations; reminder not to use / disclose former employee's trade secrets



- Departing employee exit interview
- Warning / reminder letters to departing employees / new employer
- Aggressive action and pursuit of alleged misappropriators, and instances of inadvertent disclosure
- Ongoing IT monitoring of downloading of large data dumps

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Unique Trade Secret Issues/Pitfalls

- 1. While beyond the scope of this webinar, be aware that Sarbanes Oxley Act, and Financial Accounting Standards Board (FASB) 142, set-up required "best corporate practices" to help protect a company's own trade secrets, and to not violate any third party's trade secrets, so as to avoid criminal exposure
- 2. Where a patent application pending, BE SURE the trade secret information desired to be kept secret is NOT information comprising "best mode" of making / using the invention, *i.e.*, that must be disclosed as part of the patent application's specification.

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- 3. Besides state law civil liability, there can be criminal trade secret exposure, under Economic Espionage Act, 18 USC § 1832-1839
- 4. Constant concern re trade secret *versus* patent "tug": Best protection efforts (to maintain secrecy) often result in never having any prior <u>public</u> use, <u>public</u> disclosure, or prior printed (enabling / <u>public</u>) publication of trade secrets' details. Hence, a latecomer patentee (since no effective prior art defense) can enjoin the continued use of your own long-held trade secret

5. Trade secret can be lost by (legitimate) reverseengineering by a competitor



- 6. Trade secret can be lost when independently-developed by a third party (clean-room approach)
- 7. Trade secret can be lost via inadvertent disclosure
- 8. Departing key employees: exit interviews; obtain return of materials / computers having confidential information; letters to departing employee and new employer; issue of "inevitable disclosure" with new job / duties
- 9. Departing employee's "memorization" of confidential information

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- 10. Risk that new employee will divulge a prior employer's confidential information/trade secret to new employer.
- 11. Unlike patent (where written disclosure is provided), a trade secret often does not have any complete description in one location
- 12. The more likely a trade secret can be reverseengineered, the more likely it should be, if able, subject to patent protection attempts



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- 13. Consider paying bonus to obtain employee's (innovator's) assignment, acknowledging trade secret status of new innovation, when company decides not to seek patent protection
- 14. Problems with needed disclosures to third parties: outside consultants, engineers, vendors, suppliers, investors, prospective joint venture partners, contractors, repair technicians, co-developers, testing companies, *etc*. (use of NDAs)

Non-Disclosure Agreement

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- 15. Problems with regulatory agency required (EPA, FDA, DNR, CFTC, FERC, BLM, *etc.*), disclosures of trade secrets, *e.g.*, to comply with permitting requirements; follow / use exceptions to agency CBI disclosure rules and FOIA acts. (Check back on our website for a soon-to-be-released article on "preserving confidentiality of disclosures to Federal / state agencies," co-authored by our partner Paul Craane.)
- Ongoing vigilance to maintain reasonable / proper steps of your trade secret protection program, to retain secrecy

17. Carefully worded non-exclusive license agreement of trade secret to third party in different field-of-use or different geographical market



- 18. Most "early stage" biofuel litigation, will likely be trade secret rather than patent litigation, since relatively few biofuel patents yet issued to date (but are coming)
- 19. Using your own trade secret, can nevertheless be an infringement of a prior patentee's patent claims (i.e., a patent you might not be aware of, or even searched for)



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- 20. Trying to protect by trade secret approach (instead of by patent), where "sophisticated" competitors can likely reverse-engineer your "secret" biofuel process / composition.
- 21. Investors want to see some type IP protection in place, so look to trade secrets protection, if no patent protection available



22. Carefully drafted employment, consultant, or technologysharing agreements, with two "time" tiers, i.e., where noncompete only lasts for limited "reasonable" period of time (varies by state), while longer/continuous time obligation regarding confidentiality of trade secrets

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- 23. Combine "reasonable" trade secret protection steps with so-called "secret" patent applications, to achieve best overall protection:
 - Use U.S. provisional patent application procedure (not published)
 - File Notice of Non-Publication (with decision not to file counterpart foreign cases) at time of filing non-provisional U.S. application
 - Then, must decide before patent issued if will go patent route, <u>or</u> abandon patent application and continue to keep as trade secret



What is Trade Secret Misappropriation?

- Generally any illegal activities, use of improper means, extraordinary measures or unauthorized access to obtain trade secrets and confidential information.
- Hiring competitor's employees to obtain trade secrets
- Economic Espionage use of improper means to gather trade secret or confidential information
 - Burglary
 - Fraud / trickery
 - Wire-tapping
 - Bribery



What is Trade Secret Misappropriation? (Cont'd)

- Breach / inducement of breach of duty to maintain secrecy
- Breach of access controls
- Using stolen documents
- Computer hacking



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Examples of Trade Secret Controversies

• Employee departs (perhaps to join competitor) / Employee joins (perhaps from competitor)



- Employees are bound by non-competition agreement / employee NDA / employee invention agreement
- Exit / intake interview should cover trade secret issues and include a written warning regarding employee obligations and signed acknowledgement by employee
- Inevitable disclosure doctrine



Examples of Trade Secret Controversies (Cont'd)

- Investigate new employer / send notice letter to new employer
- Equipment supplier wants to sell to competitor / Equipment customer wants to outsource to competitor
 - Specifications for equipment should be subject of NDA



- Customer NDA not necessary if "lock box" the secret part of the equipment
- UTSA makes competitor liable / state common law excuses third parties if not on notice that trade secrets are involved (bona fide purchaser for value rule)

Examples of Trade Secret Controversies (Cont'd)

• Establishing effort to maintain secrecy



- Reasonable steps under the circumstances, heroic effort not necessary
 - DuPont case: aerial photography of methanol production plant was misappropriation
- Identify confidential information if required to disclose to regulators (provisions under freedom of information acts to prevent disclosure)



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Anatomy of Trade Secret Civil Litigation

- UTSA vs. state common law (NY, NJ, MA, and TX)
- Former employee: trade secret misappropriation / breach of contract / breach of fiduciary duty
- Third party: trade secret misappropriation / unfair competition / tortious interference / conversion



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• Trade Secret Owner must prove:

- a secret kept by the company
- employee or third party misappropriated the secret



- disclosure or use of the secret has harmed or will harm Owner



• Accused Recipient must prove any of the following:

- secret not "reasonably" protected from disclosure



- "secret" is no secret in the industry
- employee or third party did not obtain "secret" from the Owner
- employee or third party did not ever know the secret
- common law BFP defense: third party gave value for the knowledge but had no notice that the "secret" was Owner's

- Civil remedies
 - Injunctions: temporary restraining order (TRO) / preliminary injunction (PI) / permanent injunction following trial
 - judge decides injunctions
 - duration may vary: as long as the secret remains secret or until there ceases to be a commercial advantage due to the secret





- Actual damages / lost profits / reasonable royalty if had been licensed
- Punitive damages if misappropriation was willful
 - attorney fees and litigation costs
 - UTSA allows up to 2 times actual damages

- Litigation strategy notes
 - consolidate PI hearing with trial in order to obtain early final injunction / damages trial is bifurcated



• protective order serves to prevent trade secrets from being publicly disclosed

- plan for an identification list of trade secrets before discovery of accused recipient
- misappropriation determination can turn on the scope of the wording identifying the trade secrets at issue



- too broad can result in secret being found a known concept in the field
- too narrow can result in that exact secret not misappropriated

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Thank you! Questions?

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Addendum

- Life Cycle of a Trade Secret
- Protection Steps Regarding Third Party Information
- Trade Secrets vs. Patents (Differences)
- Trade Secrets vs. Patent Protection (Considerations)

Life Cycle of a Trade Secret

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- Conception
- Secret R&D
- Set up "reasonable" Trade Secret Protection Program
- Commence use
- Use of NDAs, and other restrictive agreements
- Regular maintenance / monitoring / assessment of Trade Secret Protection Program
- Prompt enforcement against missappropriation

Life Cycle of a Trade Secret (Cont'd)

Immediate steps to avert unwanted / unauthorized disclosure



- Licensing?
- (Possible) third-party reverse-engineering / independent development
- (Possible) decision to publicly disclose
- Ultimate result continued long-term / indefinite protection vs. loss of secrecy / lapse of trade secret rights

Reasonable Steps for Protecting Confidential Information Properly Obtained from Third Parties

- Treat and protect third party information as if your own
- Segregate from your own company information
- Mark clearly
- Return when finished
- Don't accept / use if you are not authorized
- If any questions, check with legal counsel





Trade Secrets vs. Patents (Differences)



- Trade secrets concern information that is kept secret, whereas patents are publicly disclosed
- Trade secret's value hinges on privately maintaining secrecy, not on patent's public steps for protection
- Almost anything qualifies for trade secret protection, whereas patentable subject matter is restricted by legal requirements
- Trade secret protects only against misappropriation, not independent development, whereas independent development is no defense to patent infringement charge

Trade Secrets vs. Patents (Cont'd)



- Trade secret efforts center around ongoing steps to maintain secret, whereas patent efforts center around obtaining and enforcing
- Trade secret rights can be non-exclusive, i.e., secretly used respectively by multiple independent owners, whereas patent rights are exclusive to initial inventor(s) or then to one (or more) patent assignee / owner (and any licensees)
- Trade secrets equally applicable to simple ideas as to complex technologies; patented inventions / technologies must be non-obvious over prior art



• Statistics suggest Trade Secret plaintiffs enjoy a much higher success rate than Patent plaintiffs

"Trade Secret" vs. "Patent" Protection Considerations

- Business decision as based on cost / benefit analysis
- What is scope of patent protection available?
 - Even patentable?
 - How easy will it be to circumvent?
 - Alternatives available?
- Can infringement be detected easily?
- Can the product be reverse-engineered or independently developed?
- Value of invention vs. cost of getting patent protection
- Expected market life of invention / technology vs. time to patent issuance



"Trade Secret" vs. "Patent" Protection Considerations (*Cont'd*)

- Cost / difficulty of maintaining secrecy
- Competitors, e.g., do competitors avoid patent-pending technology by others, or only if / when patented?
- Concern of educating competitors
- Market size
- Licensing opportunities?
- Who are the customers?
- Who will need to know the protected information?
- Internal v. External use of technology



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