

APPENDIX B¹⁸³

I. GOOGLE PATENTS ADVANCED SEARCH INSTRUCTIONS

<i>FIELD</i>	<i>INPUT</i>
Synonym	<p>CL="[product keyword]"</p> <p>Product keywords are listed below (see "Product Keywords" section)</p> <p><i>Claims search (CL=):</i></p> <ul style="list-style-type: none"> ▪ <i>Restricts search to claims of patents</i> ▪ <i>Increases relevance of resulting patents by limiting results to patents in which the product is a notable input or process patents for the product</i> <p><i>Note:</i></p> <ul style="list-style-type: none"> ▪ <i>To search the union of multiple search terms, separate each "synonym" with OR</i> ▪ <i>To search the intersection of multiple search terms, separate each "synonym" with AND</i>
Date	<p>Choose "filing" from the dropdown list</p> <p>Enter years from January 1 to January 1 of the next year (i.e. 1984-01-01 – 1985-01-01)</p> <p><i>Note:</i></p> <ul style="list-style-type: none"> ▪ <i>Pre-plea years: 10 years prior to the start of the earliest starting year of a firm's plea period in the corresponding EC decision</i> ▪ <i>Plea years: the earliest starting year of a firm's plea period in the corresponding EC decision to the latest ending year of a firm's plea period in the corresponding EC decision</i> ▪ <i>Post-plea years: 10 years after the latest ending year of a firm's plea period in the corresponding EC decision</i>
Inventor	Leave blank
Assignee	<p>Firm search terms, university search terms (see "Assignee Search Terms" below)</p> <p><i>Note:</i></p> <ul style="list-style-type: none"> ▪ <i>To search the union of multiple search terms, separate each "synonym" with OR</i> ▪ <i>To search the intersection of multiple search terms, separate each "synonym" with AND</i>
Patent Office	Do not change (this generates a global search)
Language	Do not change
Status	Choose "grant" from the dropdown list
Type	Choose "patent" from the dropdown list
Sort by	<p>Relevance</p> <p><i>Note: This option can be changed only after the search results are displayed.</i></p>

¹⁸³ This Appendix was prepared by our three research assistants: Katherine Bartuska, Naira Batoyan, and Hope Bodenschatz, at the direction of the authors of the paper. Any errors are the responsibility of the authors of the paper.

II. PRODUCT SELECTION

Focusing on the firms of Akzo, BASF, Bayer, Solvay, and Degussa as producers and non-producers, if the pre-plea or the plea period has more than an average of two patents per year than chemical product was included. Otherwise, the product was excluded.

III. PRODUCT KEYWORDS

<i>PRODUCT</i>	<i>SEARCH TERM(S)</i>
1. Bitumen	“bitumen”
2. Butadiene Rubber	“butadiene rubber” OR “polybutadiene”
4. Candle Wax	“candle waxes” OR “paraffin waxes” OR “slack waxes” OR “candle wax” OR “paraffin wax” OR “slack wax”
6. Chloroprene Rubber	“chloroprene rubber” OR “chlorobutadiene rubber” OR “polychloroprene” OR “neoprene”
8. Citric Acid	“citric acid”
11. Heat Stabilizers	“heat stabilizers” OR “heat stabilizer” OR “heat stabilisers” OR “heat stabiliser” OR “thermal stabilizers” OR “thermal stabilizer” OR “thermal stabilisers” OR “thermal stabiliser” OR “tin stabilizers” OR “tin stabilizer” OR “tin stabilisers” OR “tin stabiliser” OR “epoxidised soybean oil” OR “epoxidized soybean oil” OR “ESBO”
12. Hydrogen Peroxide 1984	“hydrogen peroxide” OR “hydrogen peroxides” OR “sodium perborate”
13. Hydrogen Peroxide 2006	“hydrogen peroxide” OR “hydrogen peroxides” OR “sodium perborate”
15. Methacrylates	“methacrylates” OR “methacrylate”
16. Methionine	“methionine”
17. Methylglucamine	“methylglucamine” OR “meglumine”
18. Monochloroacetic Acid (MCAA)	“monochloroacetic acid” OR “MCAA” OR “sodium monochloroacetate” OR “SMCA”
19. Organic Peroxides	“peroxides” OR “peroxide” OR “peroxy” AND –hydrogen <i>Note: when performing a claims search, do not use CL= before -hydrogen</i>
20. Polyethylene	“polyethylene” OR “LdPE”
21. Polypropylene	“polypropylene” OR “polypropene”
23. PVC	“PVC” OR “polyvinyl chloride”
24. Rubber Chemicals	“anti-degradants” OR “anti-degradant” OR “antidegradants” OR “antidegradant” OR “accelerators” OR “accelerator” OR “rubber chemicals” OR “rubber chemical” OR “antioxidants” OR “antioxidant” OR “antiozonants” OR “antiozonant” OR “retarder” OR “retarders” OR “peptizer” OR “peptizers”

25. Soda Ash	“sodium carbonate” OR “soda ash”
29. Synthetic Fibers	“polyamide textile yarn” OR “polyamide carpet yarn” OR “polyester textile yarn” OR “polyamide staple” OR “polyester staple” OR “acrylic staple” OR “synthetic fibers” OR “synthetic fibres” OR “synthetic fiber” OR “synthetic fibre”
30. Vitamins	“vitamin A” OR “vitamin C” OR “ascorbic acid” OR “vitamin E” OR “vitamin B” OR “thiamine” OR “riboflavin” OR “calpan”
32. Nitrile Butadiene Rubber	“nitrile butadiene rubber” OR “nitrile rubber” OR “acrylonitrile butadiene rubber”

IV. ASSIGNEE SEARCH TERMS

Assignee names to be used in all cases, with the exception of the outstanding mergers, acquisitions, and name changes listed below.

Akzo Nobel	Atochem / Atofina / Arkema*	Aventis	BASF
Bayer	Degussa	Hoechst	ICI
Rhone Poulenc	Shell	Solvay	

*see Mergers, Acquisitions, and Name Changes below

V. MERGERS, ACQUISITIONS, AND NAME CHANGES – ALL SEARCHES

These cases are relevant in all instances, even when the firms are not in the cartel.

<i>FIRM</i>	<i>SEARCH</i>	
Akzo Nobel	Start year – 1993	Akzo OR Nobel
	1994 – end year	Akzo Nobel
Atochem / Atofina / Arkema	Start year – 1999	Atochem
	2000 – 2003	Atochem OR Atofina
	2004 – end year	Atochem OR Atofina OR Arkema
Bayer	Start year – 2003	Bayer
	2004	Bayer OR Lanxess
	2005	Bayer
Hoechst / Rhone Poulenc / Aventis	Search the relevant firms in separate columns for entire time period	