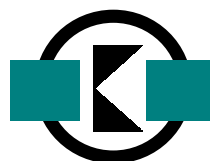
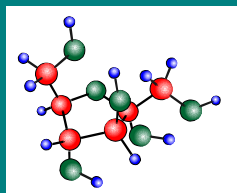


NOW AVAILABLE

SPECIALTY BIOCIDES WESTERN EUROPE 1998



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Kline & Company is pleased to announce the publication of its new more than 650-page syndicated analysis **SPECIALTY BIOCIDES WESTERN EUROPE 1998**, which provides a comprehensive analysis of this complex and fragmented market, including:

- Distinct and detailed analyses of seven major specialty biocide categories, more than 50 individual products (described in Table 1), and 14 end-use markets
- Industry dynamics and key trends, including an assessment of the business implications of these issues
- A detailed assessment of the impact of the Biocidal Products Directive (BPD) on the West European market for specialty biocides
- Business profiles of 35 specialty biocide suppliers
- Overall business outlook and appraisal

TABLE OF CONTENTS

1. EXECUTIVE SUMMARY

2. INTRODUCTION

3. PRODUCTS

- Halogenated biocides
- Inorganic biocides
- Nitrogen-based biocides
- Phenolic biocides
- Organosulphur biocides
- Organometallic biocides
- Miscellaneous biocides

For each product category, the following information is provided:

- Overview of market, including summary cross-references of West European consumption by application and individual product, supplier sales, and outlook through 2002
- For each product covered, the following information is provided:
 - Estimated West European consumption in volume and value by individual application
 - Estimated supplier sales by product in volume and value
 - Forecast West European consumption of each individual product through 2002 and supporting rationale

4. APPLICATIONS

- Adhesives and sealants
- Cooling water
- Cosmetics and toiletries
- Disinfectants and sanitizers
- Hospital and medical antiseptics and sterilants
- Metalworking fluids
- Paints and coatings
- Paper
- Petroleum production
- Plastics and resins
- Recreational water
- Synthetic latex polymers
- Textiles
- Wood preservation

For each end-use application, the

following information is provided:

- Introduction, including industry overview
- Products
 - Class
 - Grades and prices
 - Methods and levels of use
 - Estimated consumption in volume and value
 - Major customers
 - Supplier sales
 - Channels of distribution
 - Market developments
 - Regulatory issues
 - Future outlook through 2002 and rationale
 - Appraisal

5. BIOCIDAL PRODUCTS DIRECTIVE

- Overview, including time frame
- Common questions and answers concerning the BPD
- Potential impact of the BPD on the West European biocide industry
- Overview of existing biocidal active and product legislation in Western Europe and the impact of the BPD
- Glossary of terminology

6. SUPPLIERS

The following 19 companies are profiled in detail:

- Akzo Nobel Chemicals BV
- Albright & Wilson
- ANGUS Chemie
- BASF
- Bayer
- Bode
- Ciba Specialties
- Dead Sea Bromine
- Dow Chemical
- ISP Sutton Laboratories
- Lonza
- NIPA Laboratories
- Olin
- Progiven
- Rohm and Haas
- Thor
- Troy

- Union Carbide
- Zeneca

For each company listed above, the following information is provided:

- Background
- Organization
- Management and personnel
- Sales and financial performance
- Products and markets
- Sales and marketing strategy
- Manufacturing facilities
- Research and development
- Outlook and appraisal

7. OTHER SUPPLIERS

The following companies are also profiled:

- ACIMA
- L'Air Liquide
- Bactria Biocides
- Bulab Holdings
- Chemviron Specialty Chemicals
- Chimie Industrie Représentation
- Clariant
- Degussa
- Dr. Straetmanns Chemische Produkte GmbH
- Elf Atochem
- Great Lakes
- Milker & Grüning
- Oxychem
- Pentagon Chemicals
- 3V Sigma
- Weyl

APPENDIX 1:

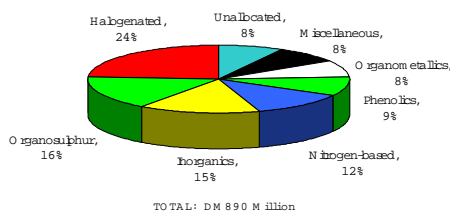
List of organizations interviewed for the study

THE BUSINESS

The West European specialty biocides market, currently valued at DM890 million (\$500 million), is in a dynamic phase, driven by the potential impact of the BPD. Halogenated specialty biocides is the leading product category by volume and value, with consumption estimated at DM215 million in 1997, representing a 24% share of the total market, as shown in Figure 1. Wood

Figure 1

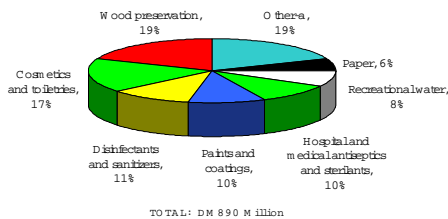
ESTIMATED WEST EUROPEAN CONSUMPTION OF SPECIALTY BIOCIDES BY PRODUCT CATEGORY, 1997



preservation is the leading specialty biocide end-use application by volume and value with consumption estimated at DM-170 million (\$95 million), or 19% of the total market in 1997. Cosmetics and toilet-ries is the next leading application, accounting for 17% of total consumption, as shown in Figure 2.

Figure 2

ESTIMATED WEST EUROPEAN CONSUMPTION OF SPECIALTY BIOCIDES BY APPLICATION, 1997



a- Includes adhesives and sealants, cooling water, metalworking fluids, petroleum production, plastics and resins, and synthetic latex copolymers.

The BPD will significantly impact the West European specialty biocides industry over the next five to ten years and beyond. **SPECIALTY BIOCIDES WESTERN EUROPE 1998** has a chapter dedicated to analyzing the impact of the BPD that helps subscribers answer common questions concerning the BPD. Selected key factors driven by the BPD that will impact the West European specialty biocides market are described in Figure 3. This chapter, combined with the information contained in

product and application chapters and competitive supplier profiles, will assist biocidal active manufacturers and formulator companies develop strategic business plans based on current business, competitive, and market information.

THE REPORT

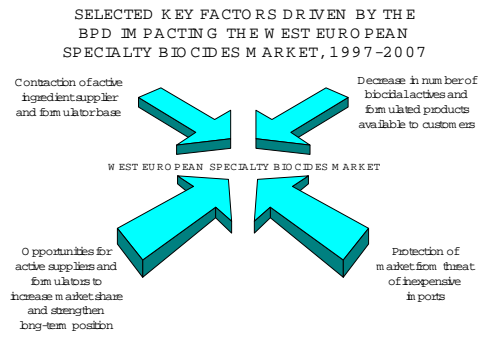
Sustained viability and profitability in such a competitive and dynamic industry demands accurate and timely information. This study will provide the critical market and competitive intelligence necessary to formulate effective strategic and business plans, for suppliers that already participate in this market as well as those that are contemplating market entry. This foundation of information and insight will help facilitate the efficient allocation of financial, marketing, and manufacturing resources necessary for future business development, as shown in Figure 4.

RESEARCH METHODOLOGY

Kline's research approach places the greatest emphasis on primary research to ensure that the foundation of business intelligence and insight is accurate and current. This report is based on a series of interviews with 330 persons at 277 organizations throughout Western Europe, including consumers, distributors, regulatory agencies, suppliers, formulators, and trade associations. All interviews were made during the period from April 1997 through June 1998. A schedule of interviews is provided below: This report also draws on: (1) suppliers' product literature; (2) a search of recent trade and technical literature; (3) an

Type of organization	Number of organizations interviewed	Number of persons interviewed
End users	170	193
Biocide manufacturer	68	85
Regulatory/environmental	27	39
Biocide formulators	7	8
Other	5	5
Total	277	330

Figure 3



analysis of statistical data from government, trade associations, and industry; and (4) nonconfidential data from Kline's library and files.

SUBSCRIPTION TERMS AND PRIVILEGES

SPECIALTY BIOCIDES WESTERN EUROPE 1998

is available only by subscription. In order to maximize the usefulness to each subscriber, the following privileges and services will be made available:

- **One day of consultation with members of the survey team at Kline's offices in Fairfield, NJ, or Brussels, Belgium, to be used at the client's discretion within three months of receipt of the report**
- **Access to the original call reports (except where information was provided on a confidential basis)**
- **Three copies of the report**

Details regarding subscription options and rates are described in the attached subscription agreement. To subscribe now, please complete both sides of the enclosed subscription agreement and forward it to any of our offices. To obtain further information or more details regarding the study, please contact us at any of our global locations listed on the back cover.

Figure 4

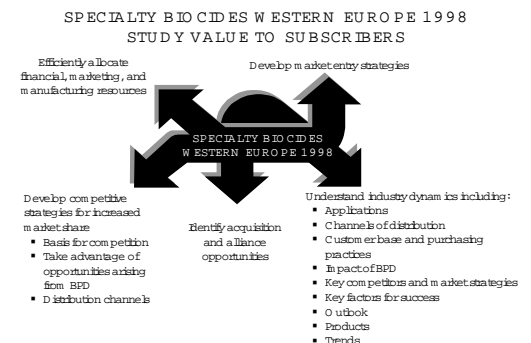


Table 1

SELECTED SPECIALTY BIOCIDES COVERED IN THIS REPORT

Biocide class	Products covered
Halogenated	<ul style="list-style-type: none"> ■ 1,2-Dibromo-2,4-dicyanobutane (DBDCB) ■ 2,2-Dibromo-3-nitrilopropionamide (DBNPA) ■ 2-Bromo-2-nitropropane-1,3-diol (BNPD) ■ 3-Iodo-2-propynylbutyl carbamate (IPBC) ■ Chlorhexidine gluconate ■ Chloroisocyanurates ■ Chlorothalonil ■ Halogenated hydantoin ■ Iodophors ■ Polyvinylpyrrolidone-iodine (PVP-iodine) ■ Sodium bromide (NaBr)
Inorganics	<ul style="list-style-type: none"> ■ Borates ■ Chromated copper (CC) ■ Chromated copper arsenate (CCA) ■ Chromated copper boron (CCB) ■ Chromated fluoroboron (CFB) ■ Copper thiocyanate (CuSCN) ■ Cuprous oxide (Cu₂O)
Nitrogen-based	<ul style="list-style-type: none"> ■ 1,3-Dimethyl-5,5-dimethylhydantoin (DMDM hydantoin) ■ Azoles ■ <i>cis</i>-1-(3-Chloroallyl)-3,5,7-triaza-1-azoniaadamantane chloride (Dowicil 200) ■ Diazolidinyl ureas and imidazolidinyl ureas ■ N'-(3,4-Dichlorophenyl)-N,N-dimethyl urea (diuron) ■ Oxazolidines ■ Poly(oxyethylene(dimethyliminio)ethylene(dimethyliminio)ethylene dichloride) (WSCP) ■ Quaternary ammonium compounds (quats) ■ Triazines
Phenolics	<ul style="list-style-type: none"> ■ (5-Chloro-2,4-dichlorophenoxy)phenol (triclosan) ■ 3,4,4'-Trichlorocarbanilide (triclocarban) ■ <i>o</i>-Benzo-<i>p</i>-chlorophenol (OBCP) ■ <i>o</i>-Phenylphenol (OPP) ■ Pentachlorophenol (PCP) ■ Phenoxyethanol ■ <i>p</i>-Hydroxybenzoates (parabens)
Organosulphur	<ul style="list-style-type: none"> ■ 1,2-Benzisothiazolin-3-one (BIT) ■ 2-(Thiocyanomethylthio) benzothiazole (TCMTB) ■ 2-n-Octyl-4-isothiazolin-3-one (NOIT) ■ 4,5-Dichloro-2-n-octyl-4-isothiazolin-3-one (DCNOIT) ■ 5-Chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (CIT/MIT) ■ Dithiocarbamates ■ Methylenebis(thiocyanate) (MBT) ■ Sodium 2-pyridinethiol-1-oxide (NPT) ■ Tetrahydro-3,5-dimethyl-2H-1,3,5-thiadiazine-2-thione (dazomet) ■ Zinc-2-pyridinethiol-2-oxide (ZPT)
Organometallics	<ul style="list-style-type: none"> ■ 10,10'-Oxybisphenoxarsine (OBPA) ■ Bis(tributyltin) oxide (TBTO) ■ Copper naphthenate (CuN) ■ Copper-8-quinolinolate (CuQ) ■ Hexyl diazeniumoxy copper (Cu-HDO) ■ Zinc naphthenate (ZnN)
Miscellaneous	<ul style="list-style-type: none"> ■ Glutaraldehyde ■ Peracetic acid

**KLINE
CREDENTIALS**

Established in 1959, Kline & Company is recognized around the world as one of the leading business consulting firms that specializes in the chemical industry. The company helps management solve practical problems in marketing strategies, acquisition and divestiture programs, and the appraisal of new technology. It provides clients with facts, forecasts, and recommended solutions to business problems, based solidly on the realities of the market as well as modern strategic principles.

The company has developed in-depth expertise in specialty biocides by tracking and analyzing this business for more than 20 years. Subscribers will benefit from our past studies in this subject area, which include such syndicated reports as:

- SPECIALTY BIOCIDES USA ANNUAL SERVICE (1988-1990)
- INVESTMENT OPPORTUNITIES IN U.S. SPECIALTY CHEMICALS, BIOCIDES CHAPTER
- BIOCIDES USA
- WATER MANAGEMENT CHEMICALS
- JANITORIAL AND HOUSEKEEPING PRODUCTS
- FOOD SERVICE CLEANING PRODUCTS
- FOOD PROCESSING CLEANING PRODUCTS

In addition to this substantial library of published reports, Kline has conducted numerous proprietary investigations of the specialty biocides business. Paraphrased titles of some of our more recent analyses are provided below:

- A COMPETITIVE PROFILE OF COMPANY A'S BIOCIDES BUSINESS
- BIOCIDES, ACQUISITION SCREENING
- BIOCIDES IN COOLING TOWERS
- BIOCIDES IN PAINTS
- BIOCIDES IN WESTERN EUROPE
- BIOCIDES INDUSTRY OVERVIEW
- COMPETITIVE ANALYSIS OF A LEADING U.S. BIOCIDES SUPPLIER

SUBSCRIPTION OPTIONS AND RATES

PART 1

SPECIALTY BIOCIDES WESTERN EUROPE 1998 SUBSCRIPTION OPTIONS AND PRICE LIST

Chapter	Price	Check here to indicate subscription preference
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Halogenated biocides	7,000	<input type="checkbox"/>
Inorganic biocides	2,500	<input type="checkbox"/>
Nitrogen-based biocides	5,000	<input type="checkbox"/>
Phenolic biocides	5,000	<input type="checkbox"/>
Organosulphur biocides	7,000	<input type="checkbox"/>
Organometallic biocides	2,500	<input type="checkbox"/>
Miscellaneous biocides	3,500	<input type="checkbox"/>
APPLICATIONS		
Adhesives and sealants	4,500	<input type="checkbox"/>
Cooling water	5,500	<input type="checkbox"/>
Cosmetics and toiletries	5,500	<input type="checkbox"/>
Disinfectants and sanitizers	4,500	<input type="checkbox"/>
Hospital and medical antiseptics and sterilants	4,000	<input type="checkbox"/>
Metalworking fluids	5,000	<input type="checkbox"/>
Paints and coatings	5,500	<input type="checkbox"/>
Paper	5,500	<input type="checkbox"/>
Petroleum production	4,000	<input type="checkbox"/>
Plastics and resins	4,000	<input type="checkbox"/>
Recreational water	4,500	<input type="checkbox"/>
Synthetic latex polymers	4,000	<input type="checkbox"/>
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BIOCIDAL PRODUCTS	9,500	<input type="checkbox"/>
DIRECTIVE		
SUPPLIER PROFILES		
Class A-a	2,000 L -	<input type="checkbox"/>
Class B-a	(Please fill 1,000-0,0	<input type="checkbox"/>
TOTAL		

PART 2

COMPANIES PROFILED IN SPECIALTY BIOCIDES WESTERN EUROPE 1998

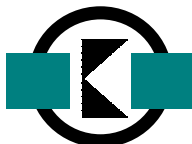
CLASS A

- Akzo Nobel Chemicals BV
- Albright & Wilson
- ANGUS Chemie
- BASF
- Bayer
- Bode
- Ciba Specialties
- Dead Sea Bromine
- Dow Chemical
- ISP Sutton Laboratories
- Lonza
- NIPA Laboratories
- Olin
- Progiven
- Rohm and Haas
- Thor
- Troy
- Union Carbide
- Zeneca

CLASS B

- ACIMA
- L'Air Liquide
- Bactria Biocides
- Bulab Holdings
- Chemviron Specialty Chemicals
- Chimie Industrie Représentation
- Clariant
- Degussa
- Dr. Straetmanns Chemische Produkte GmbH
- Elf Atochem
- Great Lakes
- Milker & Grüning
- Oxychem
- Pentagon Chemicals
- 3V Sigma
- Weyl

- a- See PART 2 for listing of individual companies.
b- Price for each single profile.
c- Please check selection in PART 2.



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