

Hot Melt Adhesives and Raw Materials Overview

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&

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U.S. Formulated Adhesives Industry

Market Size & Growth

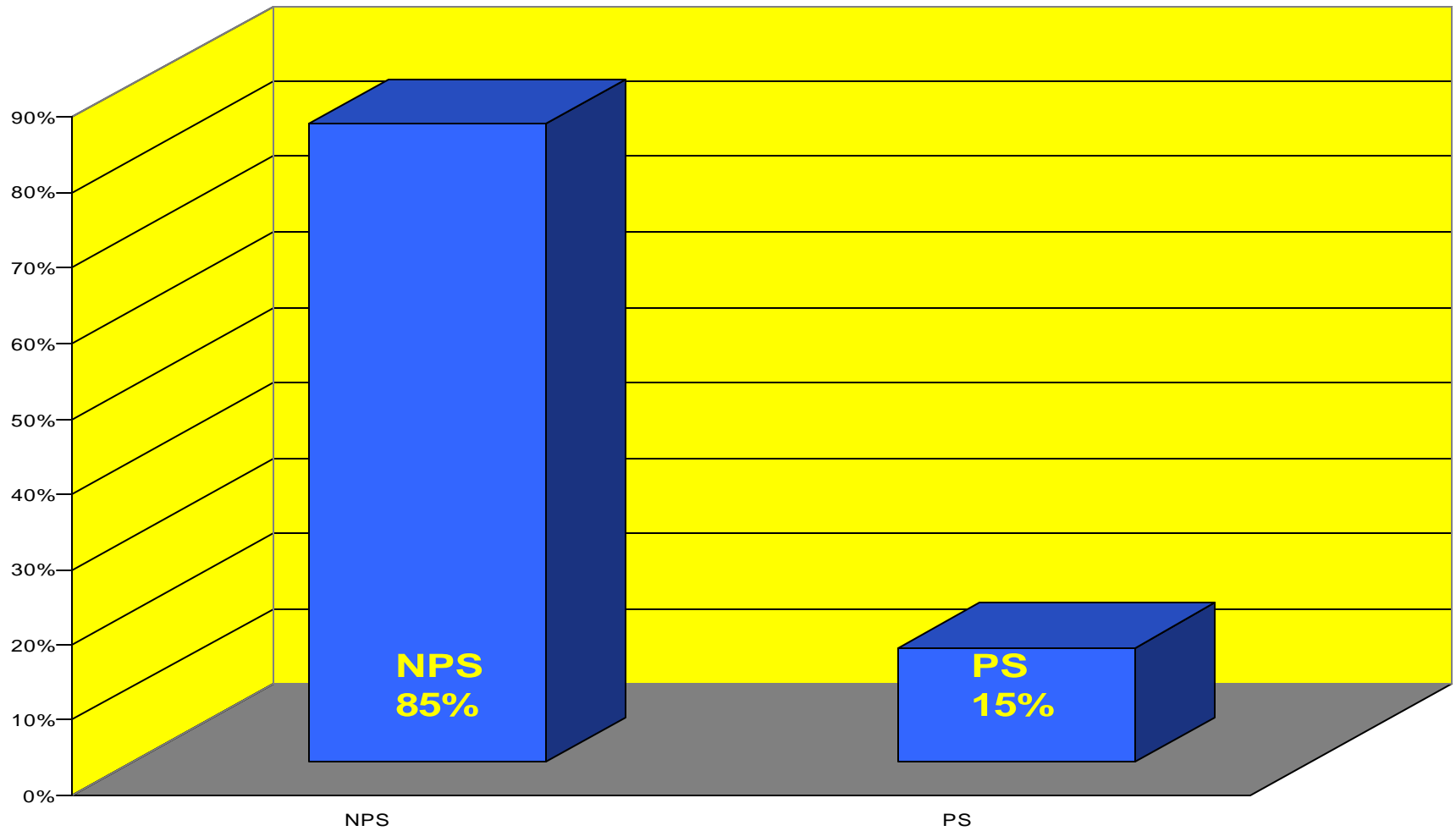
\$9.8 Billion

6.2 Billion Dry Lbs

AGR of 3.9% / Year

U.S. Formulated Adhesives Industry

6.2 Billion Dry-Lbs.



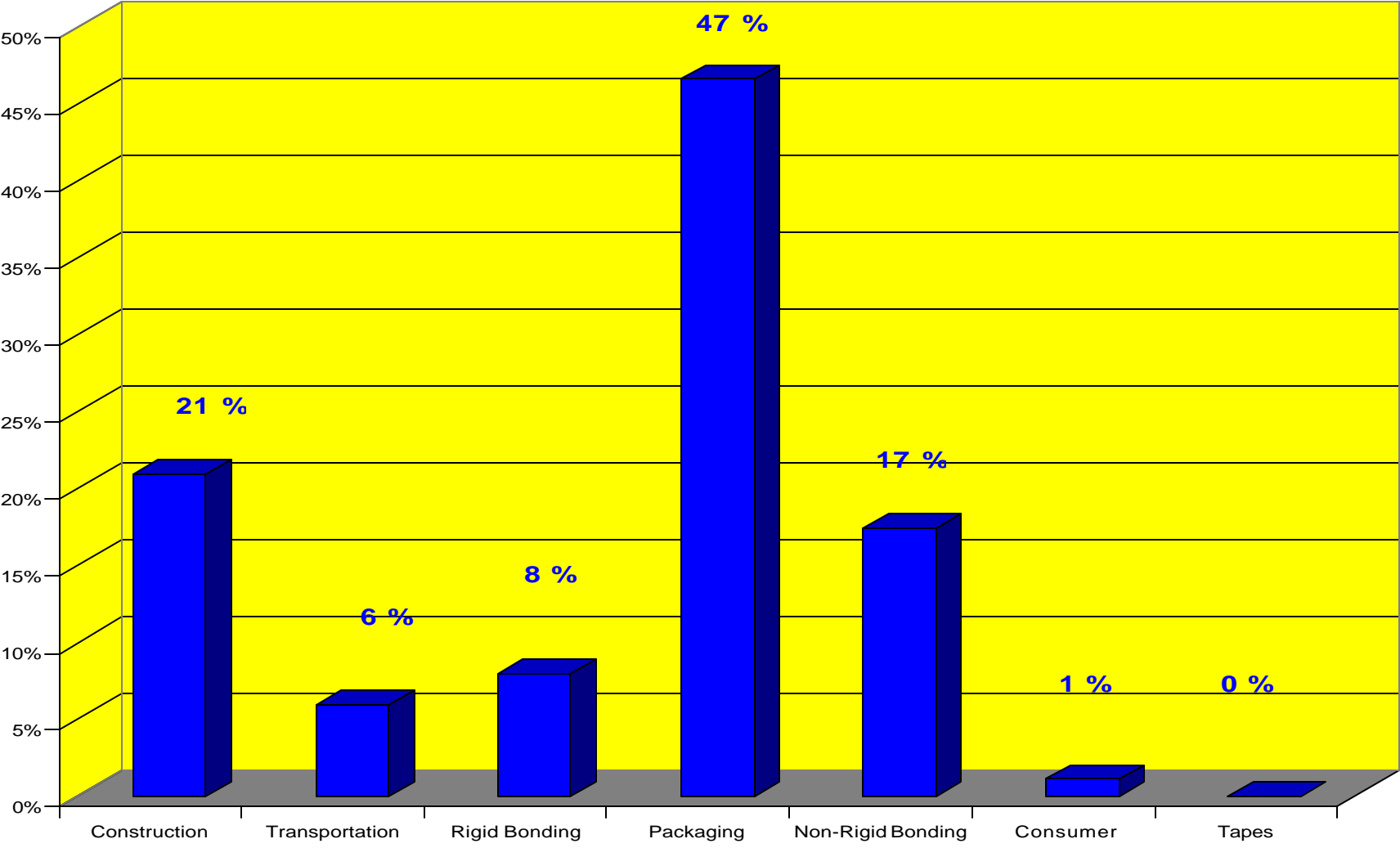
U.S. Formulated Adhesives Industry

- Major Strategic Market Sectors -

- I. Construction
 - II. Transportation
 - III. Rigid Bonding
 - IV. Packaging
 - V. Non-Rigid Bonding
 - VI. Consumer
 - VII. Tapes
-

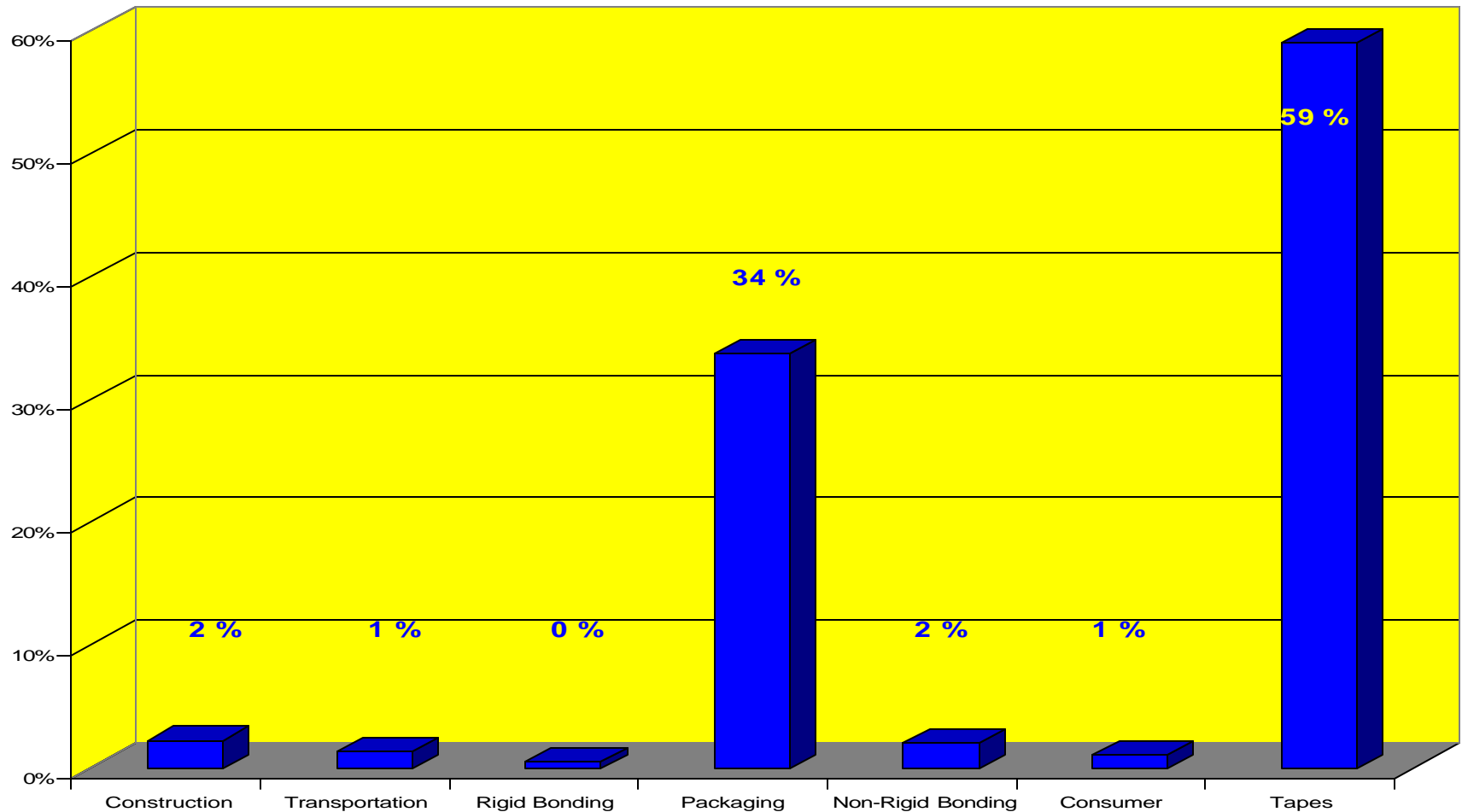
Non Pressure Sensitive Adhesive Demand

By Strategic Grouping



Pressure Sensitive Adhesive Demand

By Strategic Grouping



U.S. Formulated Adhesives Industry

- Major Strategic Market Sectors -

Market Sector	Market Segments
I. Construction	14
II. Transportation	6
III. Rigid Bonding	9
IV. Packaging	13
V. Non-Rigid Bonding	9
VI. Consumer	4
VII. Tapes	6
<hr/>	
TOTAL	61

Market Segment Categories

CONSTRUCTION

Resilient Flooring
Ceramic Tile
Countertop Lamination
Manufactured Housing
Carpet Layment
Flooring Underlayment
Prefinished Panels
Joint Cements
Curtain Walls
Wall Covering
Drywall Lamination
Roofing
Heating, Ventilation, Air Conditioning
Concrete

TRANSPORTATION

Interior Vehicle Trim
Exterior Vehicle Trim
Vehicle Assembly
Rail
Aircraft & Aerospace
Marine

RIGID BONDING

Shakeproof Fastening
Furniture
Milwork, Doors, etc.
Appliances
Housewares
Electronics
Machinery
Supported & Unsupported Film
Lamination
Sandwich Panels

PACKAGING

Corrugated Board
Carton Side Seam & Closures
Disposables
Bags
Labels/Signs/Decals
Cups
Cigarettes and Filters
Envelopes
Remoistenable Products
Film:Film and Film:Foil Laminates
Other Flexible Packaging
Specialty Packaging
Composite Containers and Tubes

NON-RIGID BONDING

Fabric Combining
Apparel Laminates
Shoe Sole Attachment
Other Shoe Manufacturing
Sports Equipment
Bookbinding
Rug Backing
Flocking Cements
Air & Liquid Filters

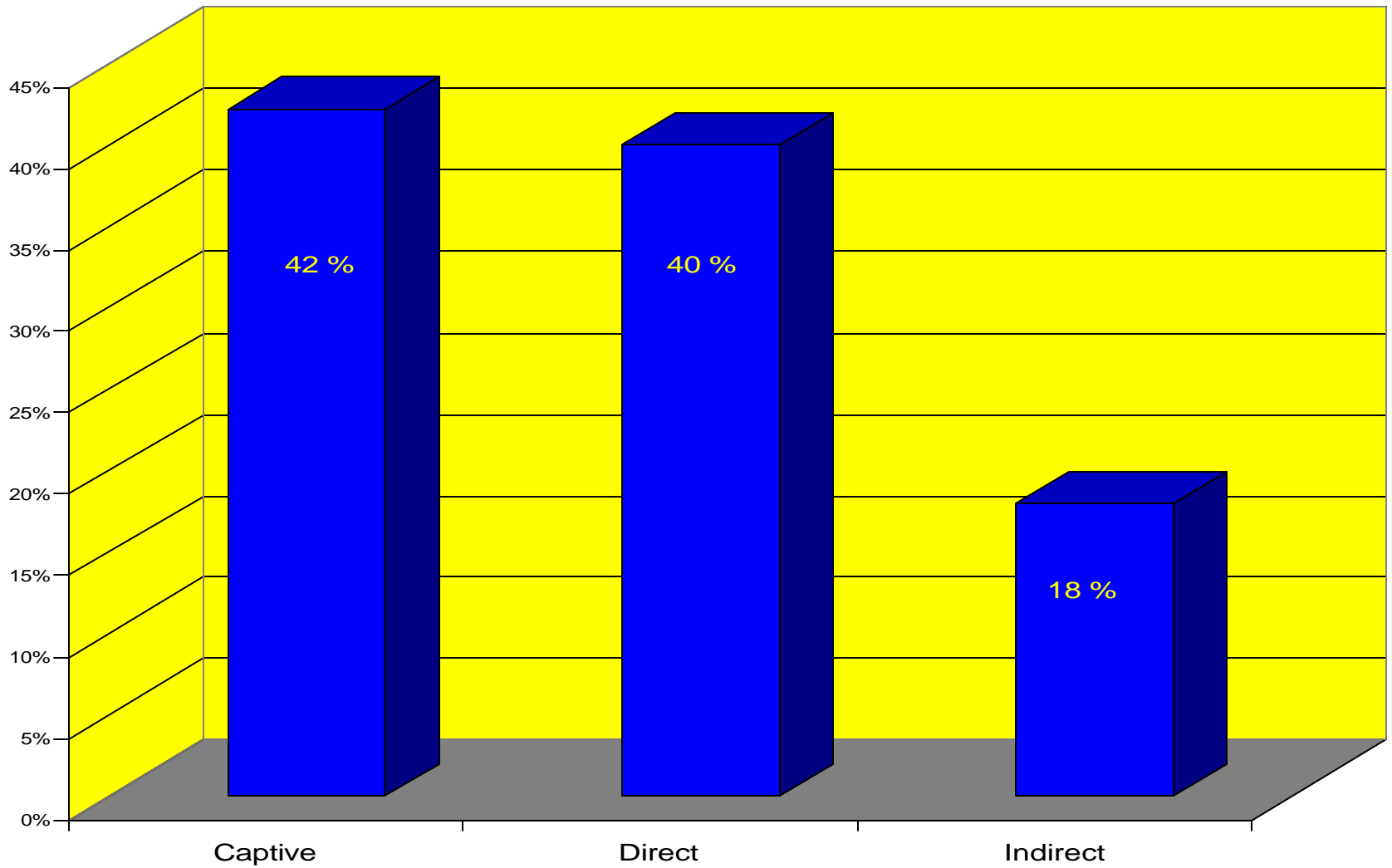
CONSUMER ADHESIVES

Do-it-Yourself Products
Model & Hobby Supplies
School & Stationery Products
Decorative Films

TAPES

Packaging
Electrical/Electronic
General Industrial
Surgical/Medical/First Aid
Masking/Protective
Consumer

Adhesive Marketing Channels



Adhesive Formulative Technologies

NPS vs. PS

*Non-Pressure
Sensitive Adhesives*

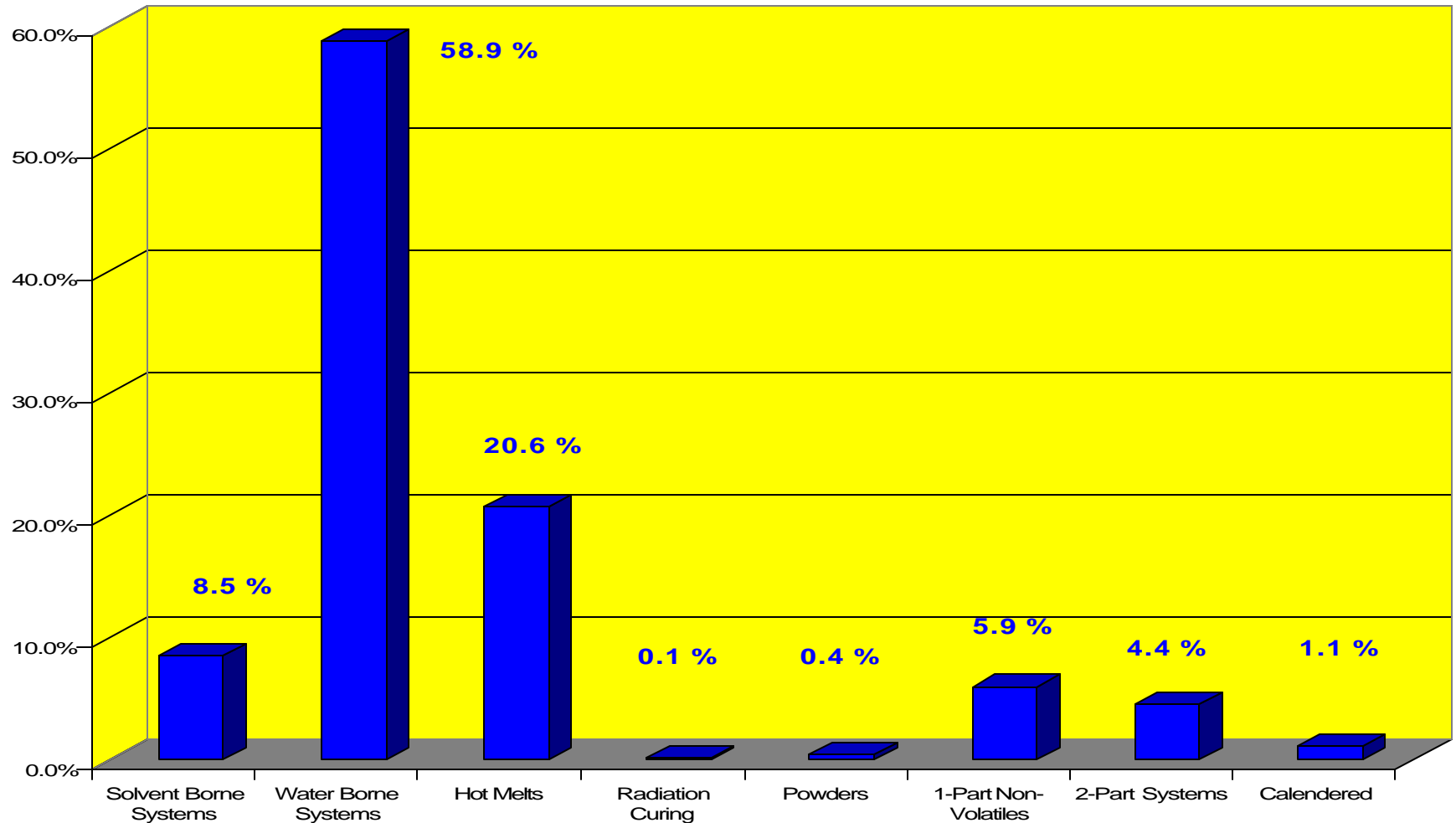
Solvent Borne
Water Borne
Hot Melt
Radiation Curable
Powder
1-Part Non-Volatile
2-Part Systems

*Pressure Sensitive
Adhesives*

Solvent Borne
Water Borne
Hot Melt
Radiation Curable
Calendered

2001 US Formulated Adhesives Industry

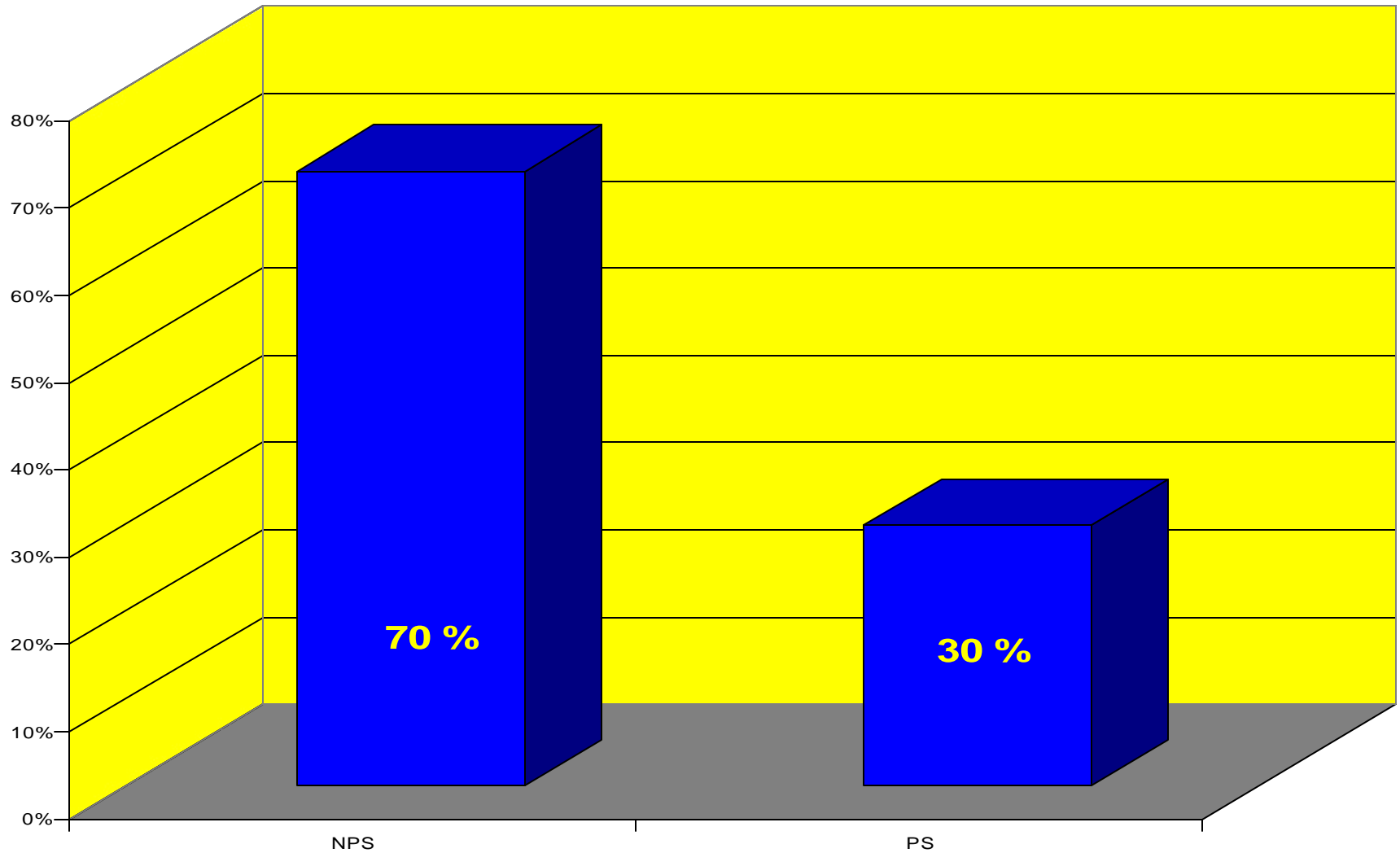
- By Formulative Technology -



Raw Material Categories

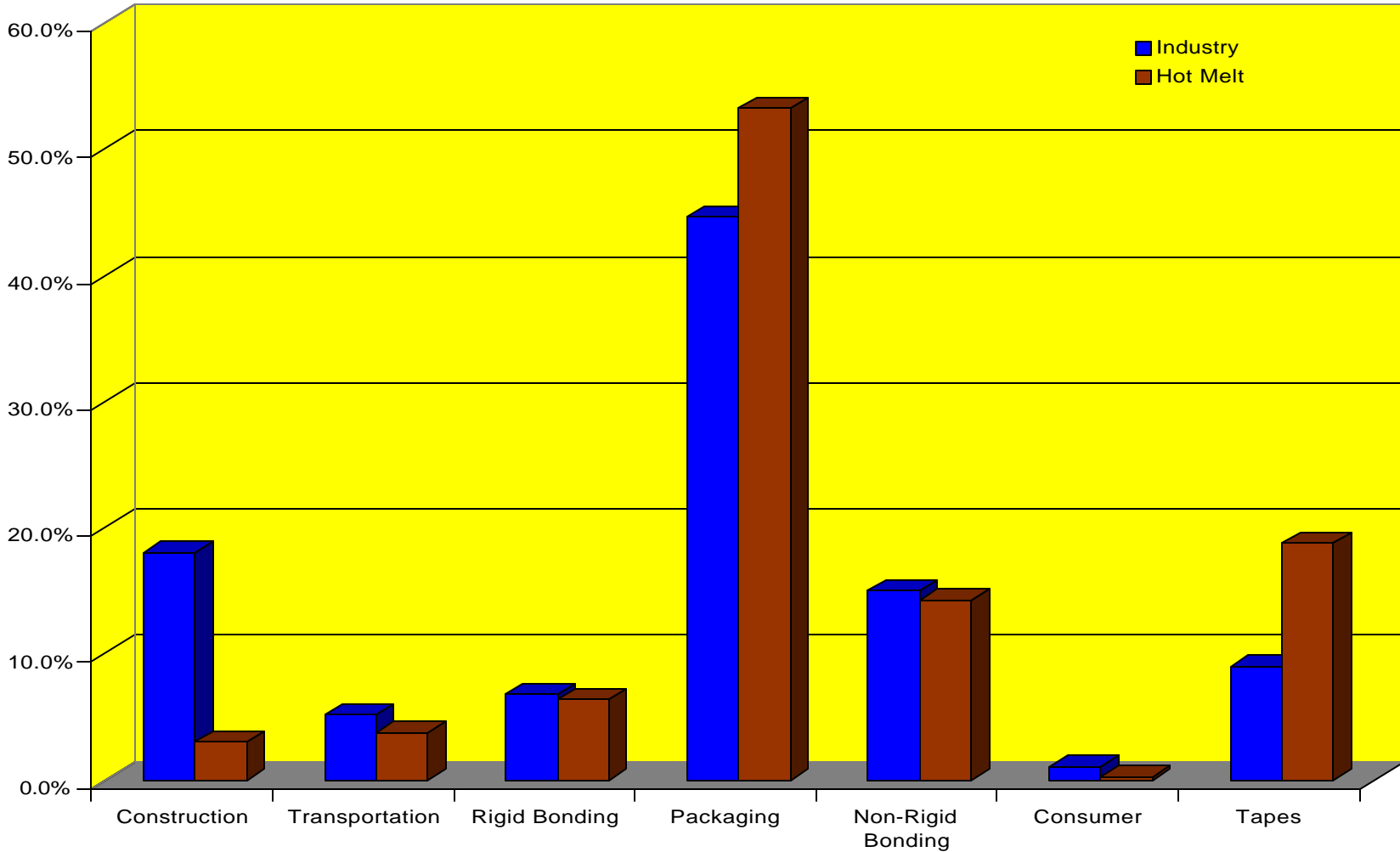
Acrylics	Hydrocarbon Resins	Reclaim Rubber
Acrylic-Vinyl Acetate Copolymers	Natural Rubbers	Rosin and Rosin Esters
Aminoplasts	Polychloroprenes	SBR (Random Styrene Butadiene)
Anaerobics	Nitrile Rubber (NBR)	Silicone
Animal/Fish	Other Vinyls	Sodium Silicate
Bitumen	Phenolics	Starches and Dextrines
Block Copolymers	Plasticizers	Structural Acrylics
Butyl Rubbers	Polyamides	Terpene Resins
Casein	Polyester-Thermoplastic	Urethane-Thermoplastic
Cellulosics	Polyester-Thermosetting	Urethane-Thermosetting
Cyanoacrylates	Polyethylene	VAE (50+% Vinyl Acetate)
Epoxies	Polyisobutylene	Other Polymers
EVA Copolymers (50+% Ethylene)	Polypropylene	Fillers
	Polyvinyl Chloride (PVC)	
	PVA (Vinyl Acetate Homopolymers)	

2001 US Hot Melt Adhesives Market



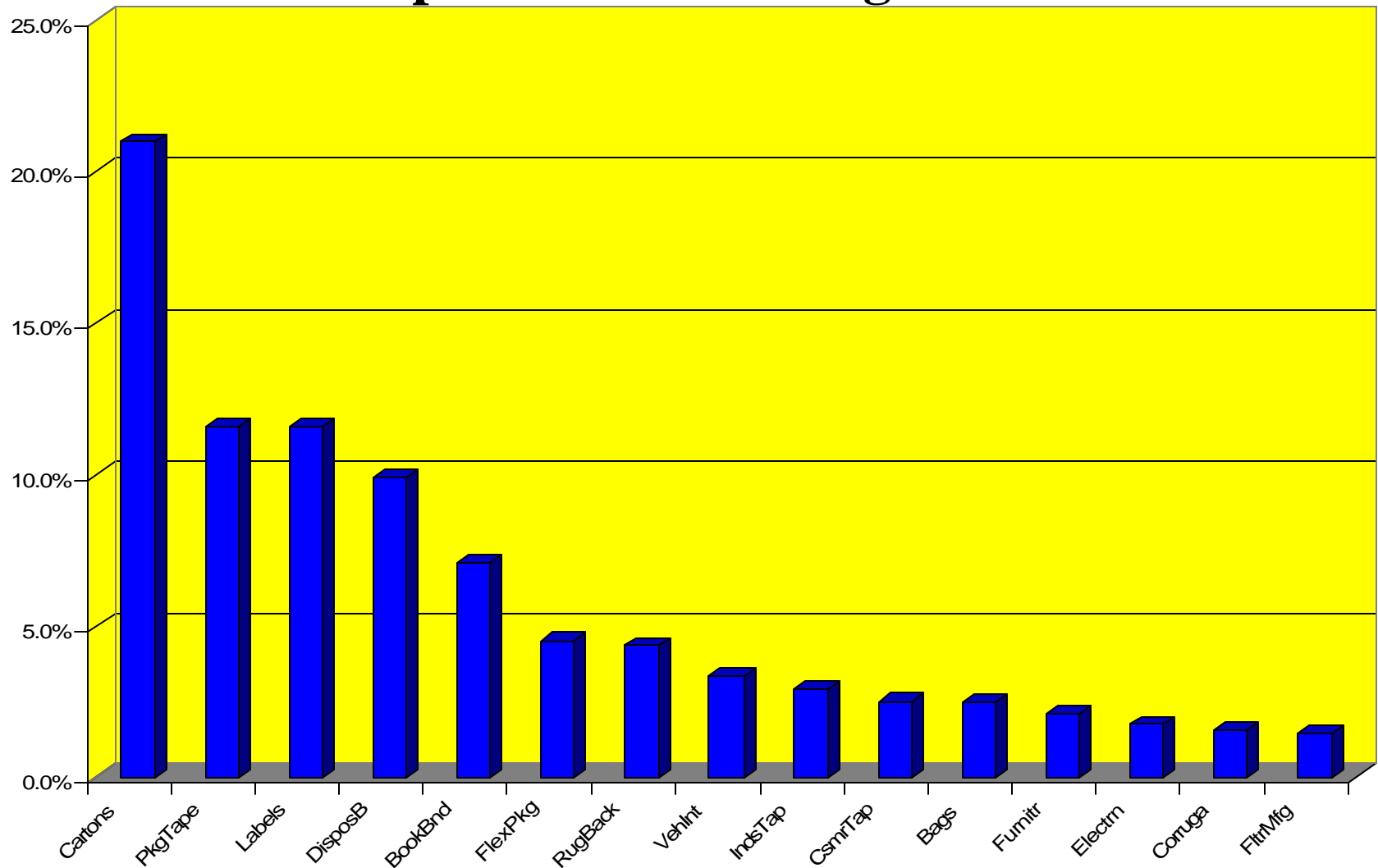
2001 US Hot Melt Adhesives Market

- Comparison To Overall Industry By Sector -



2001 US Hot Melt Adhesives Market

- Important Market Segments -



Raw Material Categories

Important To Hot Melt Adhesives

Acrylics

Acrylic-Vinyl Acetate
Copolymers

Aminoplasts

Anaerobics

Animal/Fish

Bitumen

Block Copolymers

Butyl Rubbers

Casein

Cellulosics

Cyanoacrylates

Epoxies

EVA Copolymers

(50+% Ethylene)

Hydrocarbon Resins

Natural Rubbers

Polychloroprenes

Nitrile Rubber (NBR)

Other Vinyls

Phenolics

Plasticizers

Polyamides

Polyester-Thermoplastic

Polyester-Thermosetting

Polyethylene

Polyisobutylene

Polypropylene

Polyvinyl Chloride (PVC)

PVA (Vinyl Acetate

Homopolymers)

Reclaim Rubber

Rosin and Rosin Esters

SBR (Random Styrene
Butadiene)

Silicone

Sodium Silicate

Starches and Dextrines

Structural Acrylics

Terpene Resins

Urethane-Thermoplastic

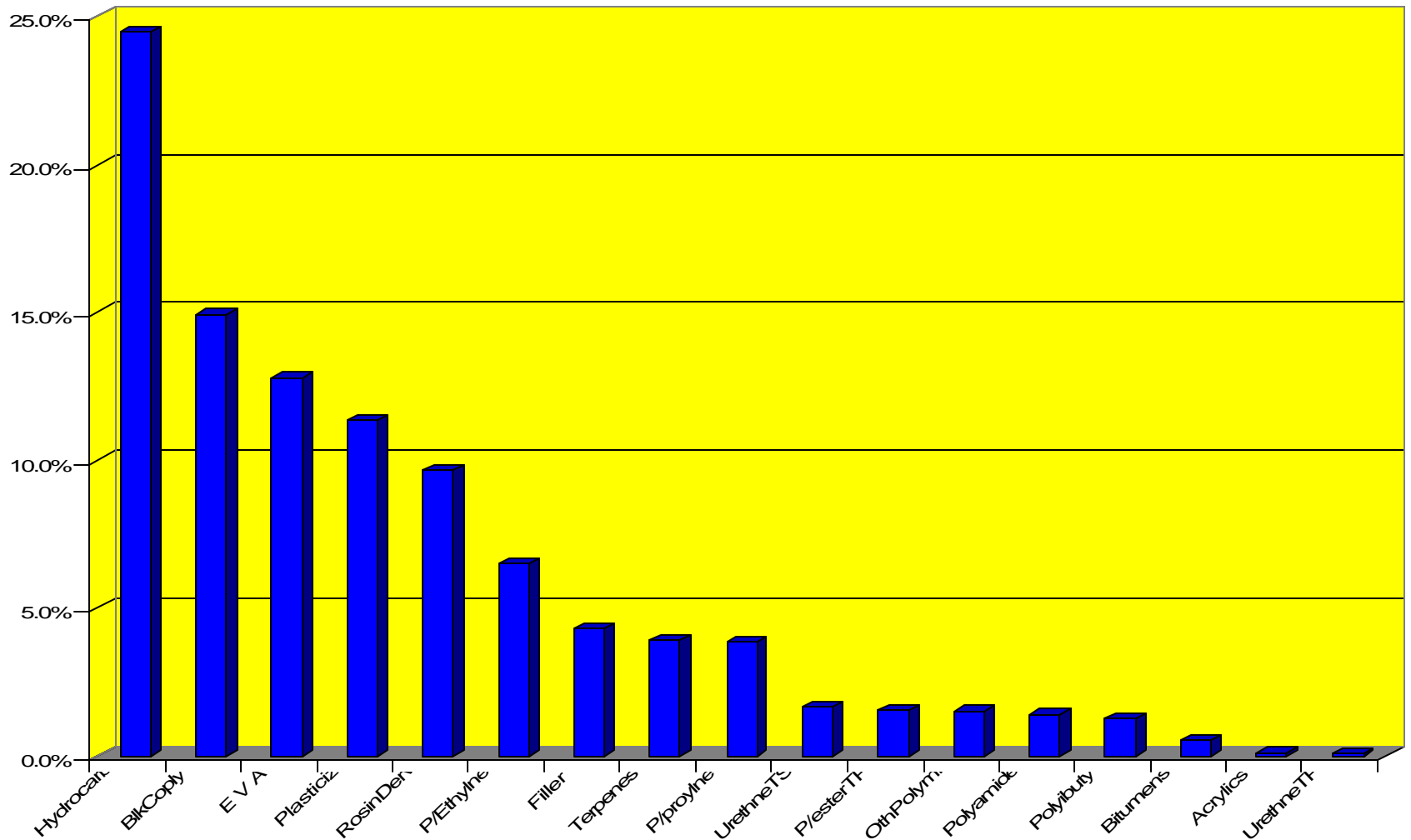
Urethane-Thermosetting

VAE (50+% Vinyl
Acetate)

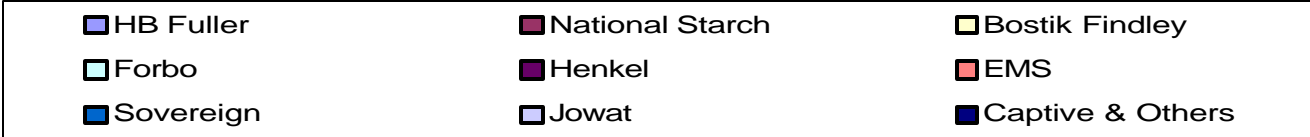
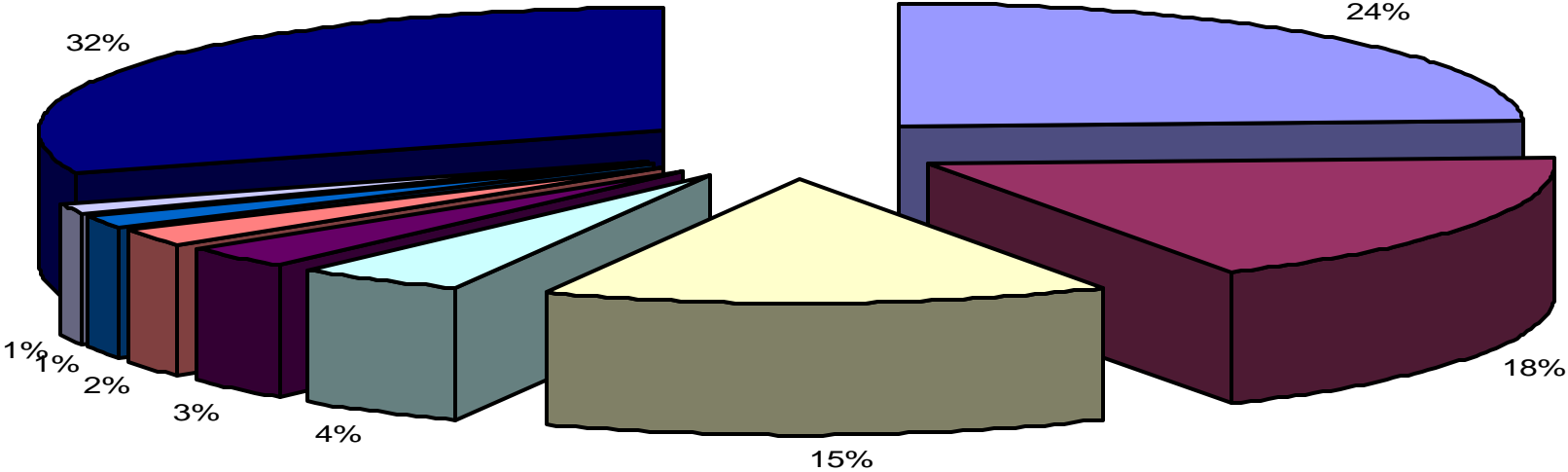
Other Polymers

Fillers

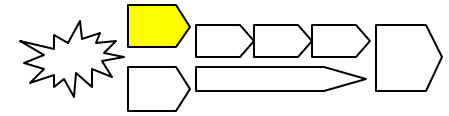
2001 US Hot Melt Adhesives Market - Important Raw Material Classes -



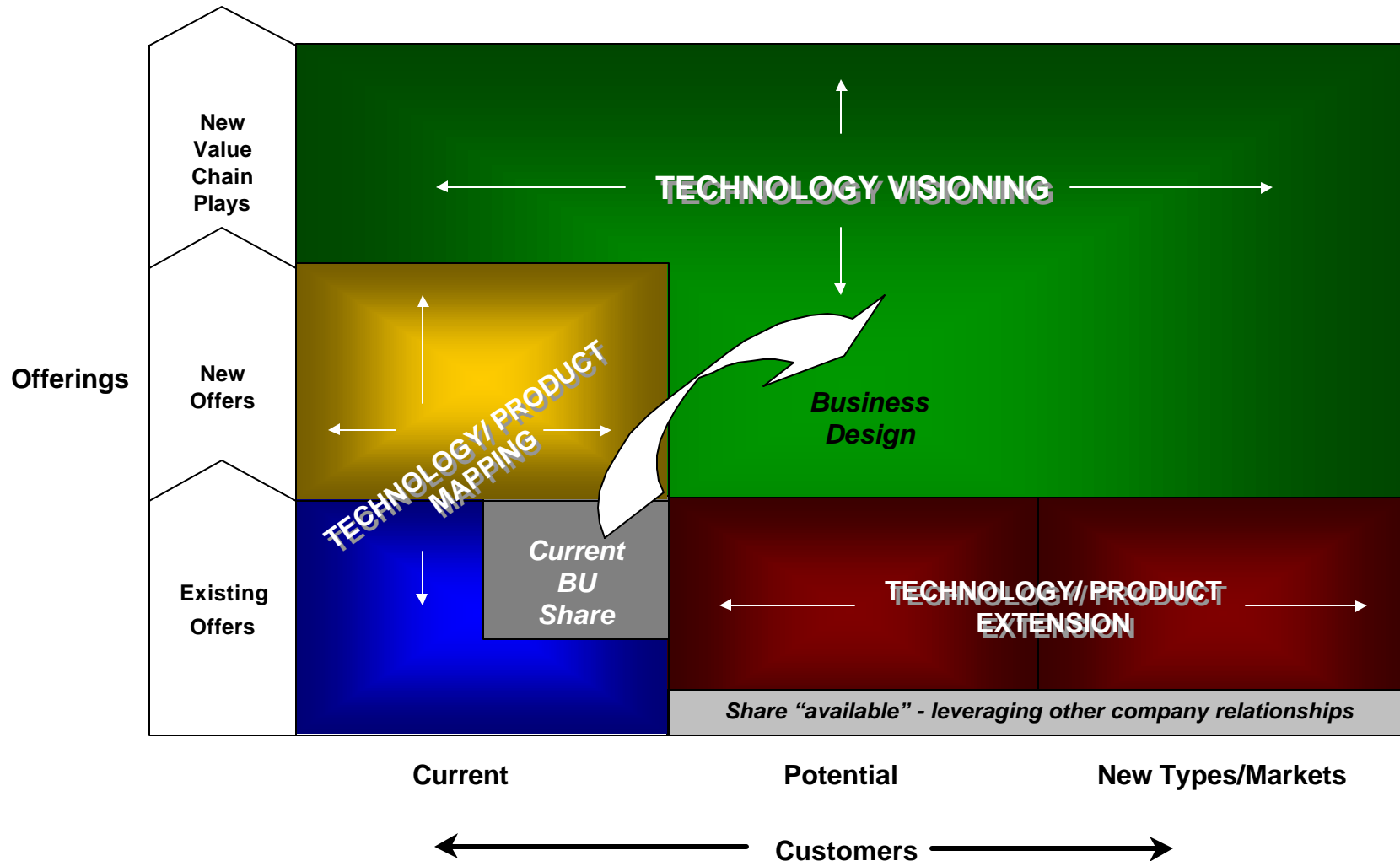
Major Suppliers Of Hot Melt Adhesives To The U.S. Market

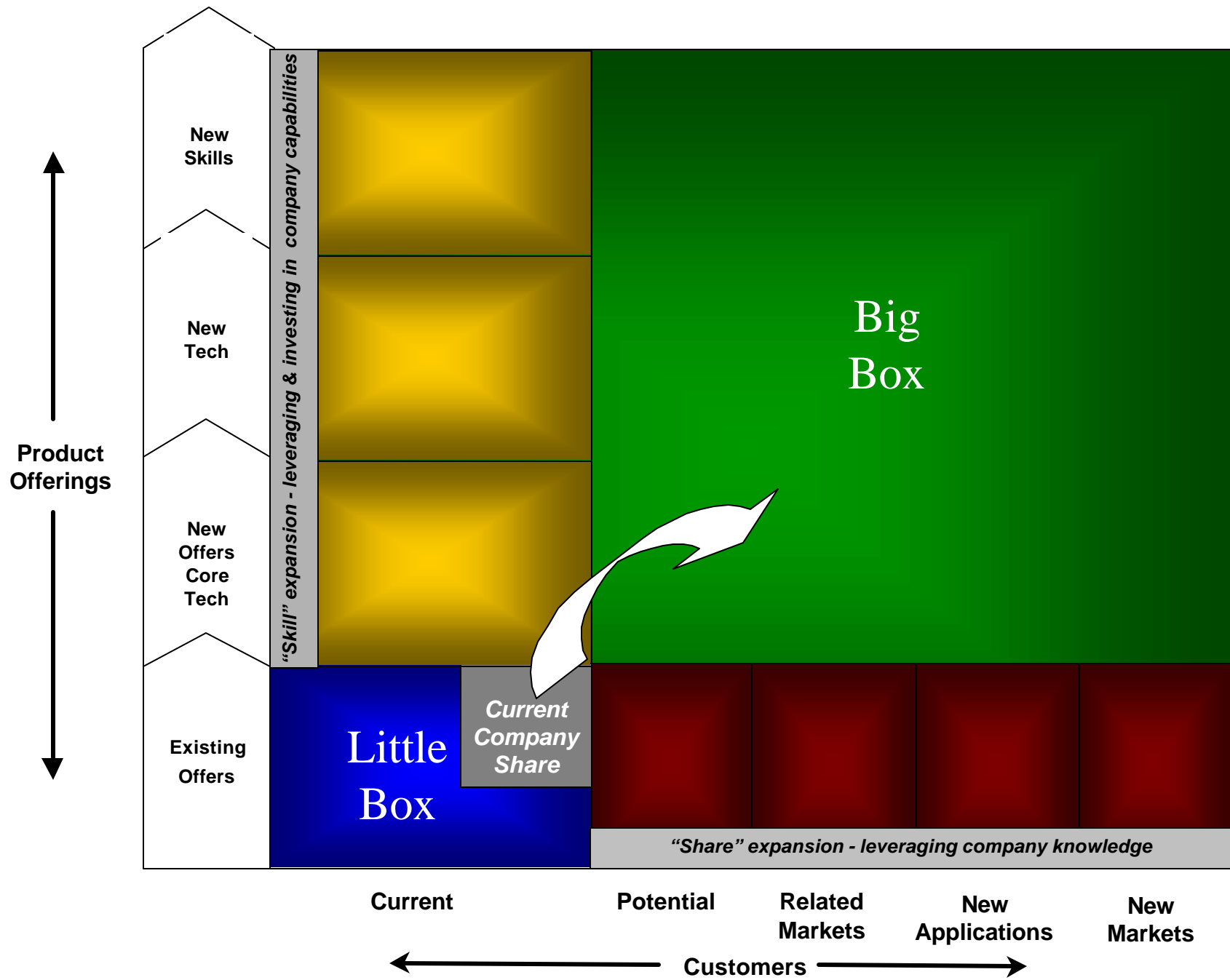


New Product Development Process



The identification and evaluation of new technology alternatives will allow companies or businesses to enter new opportunity space outside of today's offerings and customers.





**Thank you to The Adhesive &
Sealant Council**

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