UBE Latin America

Matérias primas de alta performance para um mercado exigente.

Índice

- Grupo UBE

- Matérias – Primas
  - 1,6 – Hexanodiol
    - Estrutura Química
    - Propriedades
    - Aplicações
  - Metil Etil Cetoxima
    - Estrutura Química
    - Propriedades
    - Aplicações

GRUPO UBE

UBE Latin America

Planta UBE - Japão

UBE Latin America

Planta UBE - Espanha

UBE Latin America

RESPONSIBLE CARE

Desenvolvimento da UBE - Espanha

1967

- The company is established in Castellon with the name **PRODUCTOS QUÍMICOS ESSO**, with the goal of producing **Caprolactam** (the monomer of Polyamide-6) and **Ammonium Sulphate** (a fertilizer)

1975

ESSO — sells to → **BANESTO**

The company 's name is changed to: PROQUIMED

1991

BANESTO — sells to → **British Petroleum**

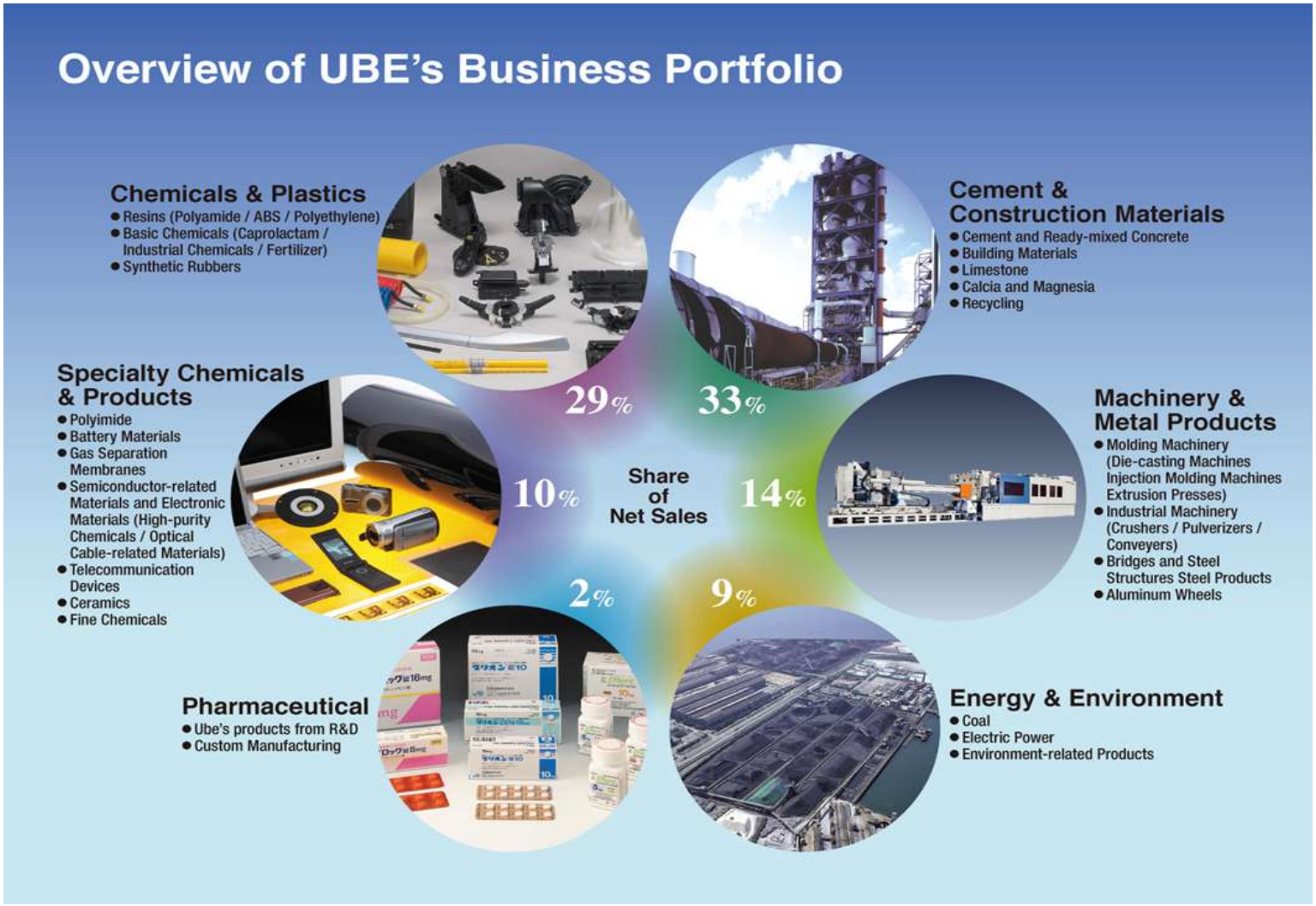
1994

British Petroleum — sells to → **UBE Industries Ltd.**

The company 's name is changed to **UBE Corporation Europe SA (UCE)**

Carteiras de Produtos

UBE Latin America



RESPONSIBLE CARE

Índice

- Grupo UBE
- Matérias – Primas
  - 1,6 – Hexanodiol
    - Estrutura Química
    - Propriedades
    - Aplicações
  - Metil Etil Cetoxima
    - Estrutura Química
    - Propriedades
    - Aplicações

1,6-Hexanodiol

UBE Latin America

RESPONSIBLE CARE

Índice

- Grupo UBE
- Matérias – Primas
  - 1,6 – Hexanodiol
    - Estrutura Química
    - Propriedades
    - Aplicações
  - Metil Etil Cetoxima
    - Estrutura Química
    - Propriedades
    - Aplicações

1,6-Hexanodiol

UBE Latin America

(1) Appearance	White solid
(2) Molecular weight	118
(3) Melting point	41—42°C
(4) Boiling point	250°C approx.
(5) Flash point	137°C(Pensky-Martens)
(6) Solubility (25°C)	Water (readily soluble)
	Methanol (readily soluble)
	N-Butanol (readily soluble)
	Butylacetate (readily soluble)
	Ether (sparingly soluble)

(Technical Data Sheet)

Índice

- Grupo UBE
- Matérias – Primas
  - 1,6 – Hexanodiol
    - Estrutura Química
    - Propriedades
    - Aplicações
  - Metil Etil Cetoxima
    - Estrutura Química
    - Propriedades
    - Aplicações

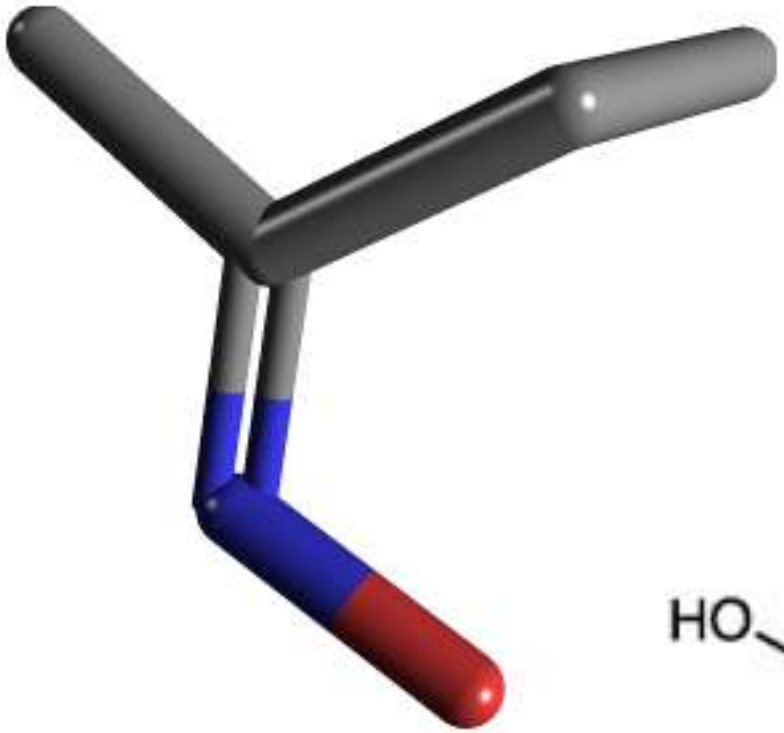
1,6-Hexanodiol

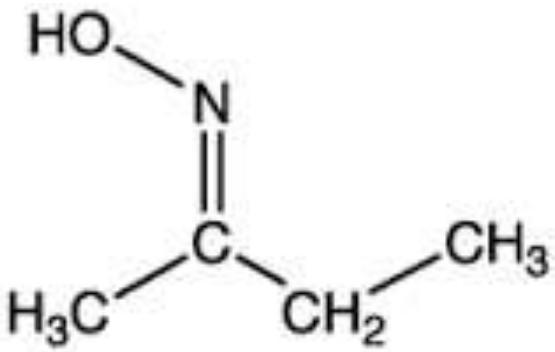
- Aplicações:
  - Poliésteres
  - 1,6-HDL+Ácido Adípico = Adipato de 1,6-HDL
  - Poliuretanos (P.U.)
  - Poliuretanos de poliésteres – Resistência química, física e térmica
  - 1,6-HDL colabora na cadeia do poliéster
  - Aditivos Plásticos
  - Plastificantes em resinas de policloreto de vinila (PVC)

Índice

- Grupo UBE
- Matérias – Primas
  - 1,6 – Hexanodiol
    - Estrutura Química
    - Propriedades
    - Aplicações
  - Metil Etil Cetoxima
    - Estrutura Química
    - Propriedades
    - Aplicações

MEKO





Índice

- Grupo UBE
- Matérias – Primas
  - 1,6 – Hexanodiol
    - Estrutura Química
    - Propriedades
    - Aplicações
  - Metil Etil Cetoxima
    - Estrutura Química
    - Propriedades
    - Aplicações

Properties	
Appearance	Colourless liquid
Flash point	65°C (Tag closed tester)
Melting point	−17°C
Boiling point	152°C (760mmHg)
Specific gravity	0.922 (25°C)
Coefficient of viscosity	4.4cp (25°C)

Specifications		
	Appearance	: Colourless liquid
	Assay	: min. 99.0%
	Water content	: max. 0.1%

(Technical Data Sheet)

Índice

- Grupo UBE
- Matérias – Primas
  - 1,6 – Hexanodiol
    - Estrutura Química
    - Propriedades
    - Aplicações
  - Metil Etil Cetoxima
    - Estrutura Química
    - Propriedades
    - Aplicações

- Aplicações:
  - Agente Anti-Pele
  - Intermediário para o endurecimento em silicones
  - Agente bloqueador de isocianatos

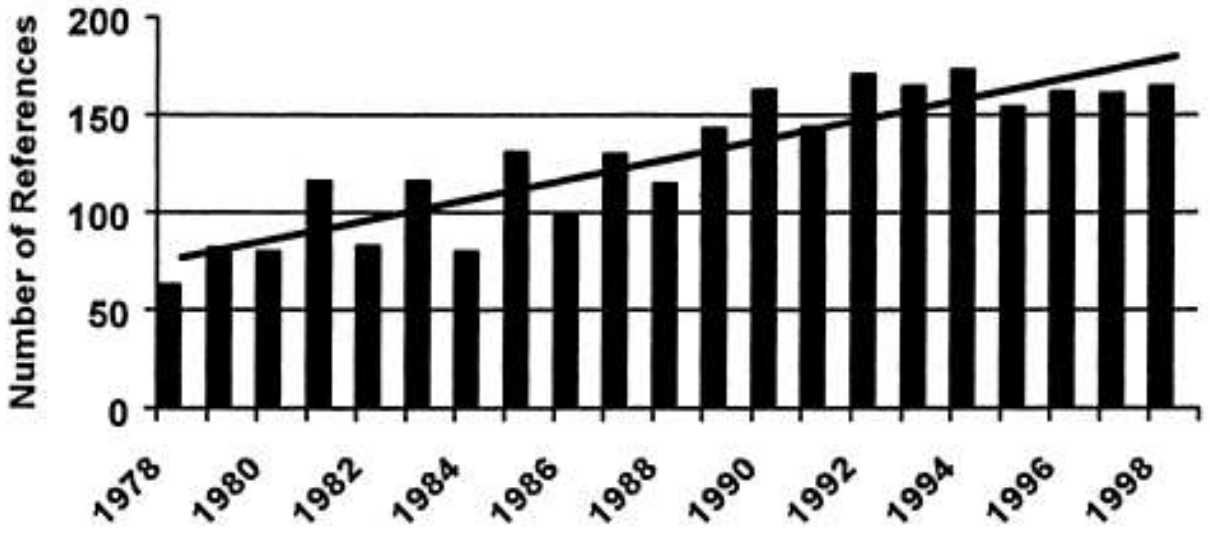


Fig. 1. Citations found per year using a query of "blocked polyisocyanate" in SciFinder® (as of January 1999).

90% das referências encontradas foram patentes, justificando a importância industrial dessa tecnologia.

Agente bloqueador de isocianatos

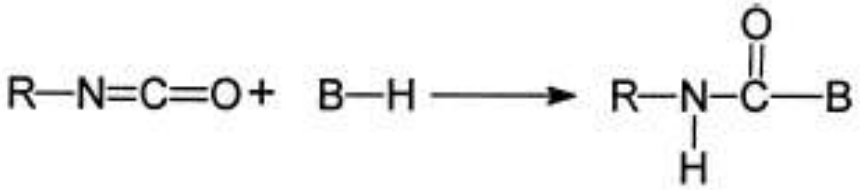


Fig. 2. A blocked isocyanate by reaction with active hydrogen compounds.

Agente bloqueador de isocianatos

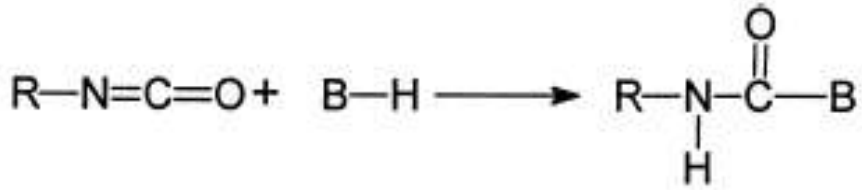


Fig. 2. A blocked isocyanate by reaction with active hydrogen compounds.

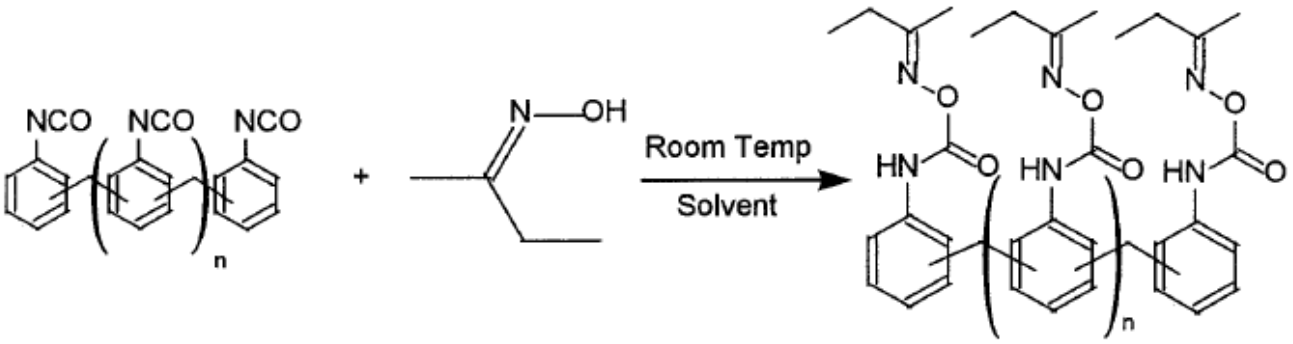


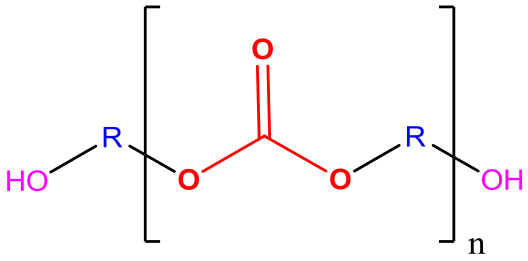
Figure 2. Synthesis of a blocked polymeric MDI with MEKO.

- Uso de isocianatos bloqueados:
  - Dispersões aquosas
  - Síntese de dispersões de poliuretano
  - Coil coatings – Revestimento de bobinas
  - E-coats

Progress in Organic Coatings 41 (2001) 1–83
Review
Blocked isocyanates III
Part B: Uses and applications of blocked isocyanates

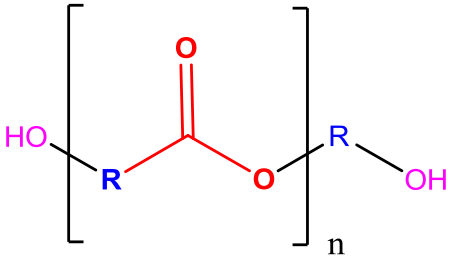
PCD

Terminal – Backbone – Bridge – Backbone – Terminal



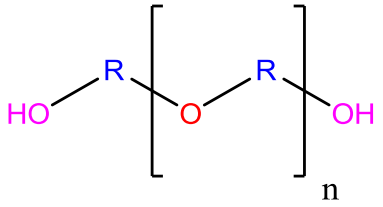
Polycarbonate diol

higher stability due to lower chemical reactivity



Polyester diol

poor hydrolysis resistance



Polyether diol

low radical oxidation stability

Advantages of polycarbonate diol: Carbonate vs. ester & ether as bridge

- Excellent hydrolytic stability
- High thermal stability
- High chemical resistance
- Good properties at low temperature
- Improved durability
- High mechanical properties

PCD

- **Internal polyurethane coatings of pipelines for improving abrasion resistance**

- **Current coating : Polyether-based polyurethane**

Polyurethane coatings improved the wear resistance of pipelines under erosion conditions.

R.J.K. Wood, Y, Puget, K.R.Trethewey, K. Stokes. ***«The performance of marine coatings and pipe materials under fluid-borne sand erosion»*** Wear 219, 46-59 (1998)

- **Fillers and additives have been used to improve abrasion resistance of polyether and polyester-based polyurethane coatings**

S. Zhou, L. Wu, J. Sun, W. Shen. ***«Effect of nanosilica on the properties of polyester-based polyurethane»*** Journal of Applied Polymer Science 88 (1), 189-193 (2003)

H. Song, Z. Zhang, X. Men, Z. Luo. ***«A study of the tribological behavior of nano-ZnO-filled polyurethane composite coatings»*** Wear 269 (1-2), 79-85 (2010)

PCD

- **Current drawbacks and limitations of PU's as pipeline coatings**
  - ✓ **Limited hydrolytic stability and chemical resistance**
  - ✓ **Additives for abrasion improvement are expensive**
  - ✓ **High costs of maintenance**

- **Improved ageing resistance and adhesion have been shown in polycarbonate diol-based polyurethanes with respect to polyether and polyester-based polyurethanes.**

V. García-Pacios, M. Colera, Y. Iwata, J.M. Martín-Martínez. ***«Incidence of the polyol nature in waterborne polyurethane dispersions on their performance as coatings as stainless steel»*** Progress in Organic Coatings 276 (12), 1726-1729 (2013)

PCD


Automotive


Artificial leather


Leather finishing


Automotive finishing


Flooring


Wood coating & paints

PCD


Adhesives


Bioadhesives


TPU & elastomers


Rollers


Footwear


RIM foams

PCD

Any other application requesting improved durability…

Obrigado!