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PETROCHEMICALS DATABASE

Program Specification

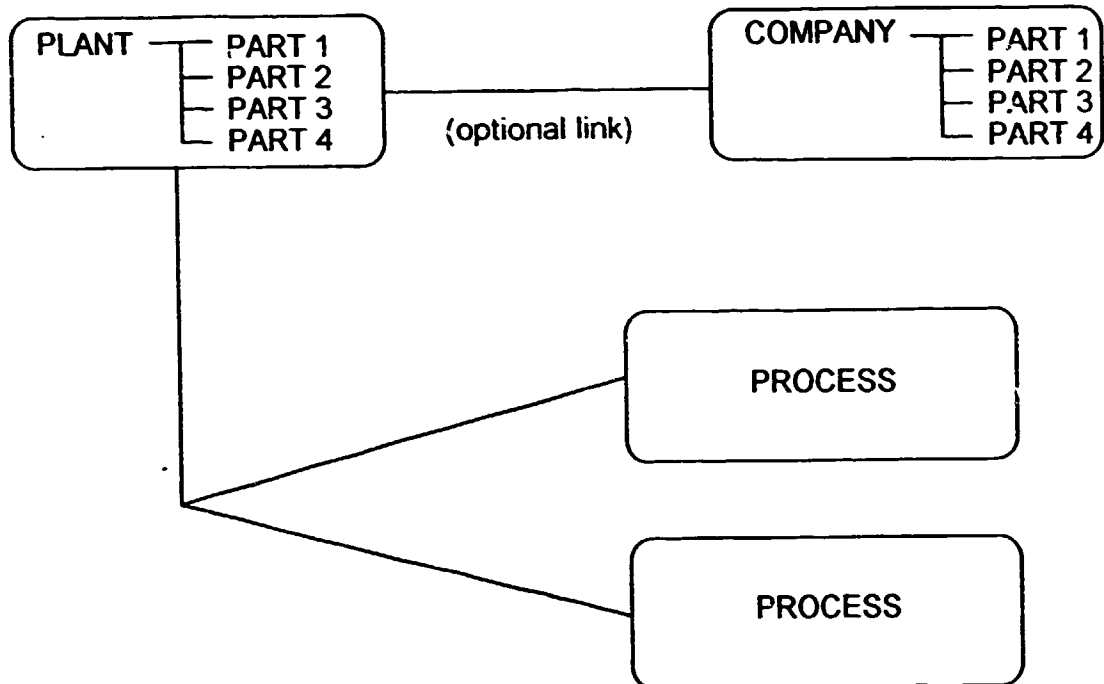
This paper represents the program specification for the development of the INTIB Integrated Database System - Petrochemical Module for the United Nations Industrial Development Organization (UNIDO) and concerns itself primarily with the following items:

1. Short descriptions of the databases that will be implemented
2. Record Descriptions
3. Screen Layouts
4. Questionnaire
5. Verbal Description of some of the terms used in the questionnaire as well as in the Record Descriptions
6. List of products
7. Thesaurus

This paper is the final revision of the study that was undertaken by Computer Sales and Services in consultation with Ms. Ralston and Mr. Mohiuddin - both of the UNIDO. It represents the program specification upon which the actual development of the INTIB Integrated Database System - Petrochemical Module is based.

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Terminology or terms used in this documentation::

- Application** - refers to the INTIB application which will consist of :
- Programs** - such as the Petrochemical program or the Maintenance programs for the system databases
- Database** - A file structure as defined by the xBase standard and adapted a little by Fox Software. Databases are created using the FoxPro Application Development Environment. Database and Table are used synonymously.
- Questionnaire** - 4 Questionnaires developed by this author in consultation with Ms. Ralston and Mr. Mohiuddin of the UNIDO. They can be located in Section 7 of this documentation.

(In case you like the font in which this documentation is done, it's Oxford, a TrueType Font available as "Typecase Fonts for Windows" from SWFTE International Limited. Nice things deserve mention.)

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1. **Short descriptions of the databases that will be implemented**

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Systems Databases

1. USERINFO.DBF

This database contains information concerning the rights of people who will enter data into any of the application modules. It contains administrative information such as whether the current user is a database administrator, to which database he/she has administrator privileges, the user id and the password. The information contained in this database is also used to time stamp any modifications made to records within the entire system of databases so that it can immediately be determined when a particular record was originally inputted or when it was updated and by whom. Please note that the present structure of the .DBF file does not permit Level 6 Security as defined by the United States Department of Defense. The user id and password scheme will therefore not keep a determined intruder who has a reasonable knowledge of dBase out of the database. It is primarily meant as a way of keeping the normal user from inadvertently changing or deleting data. Also the time stamp, that is applied to every change is obtained from here. Security must however be implemented at the Novell Netware level and only users who are authorized to update should be given write permission to the subdirectory where the application resides. All other users should have Read-Only permission (preferably by defining the Trustee Directory Assignment for Group EVERYONE to Read/File Scan).

2. COUNTRY.DBF

This database contains country information including 2- and 3- letter short codes as defined by the UNIDO. It also contains information about the development status of the particular country and the official and UN languages to be used when corresponding with a particular country. The PetroChemicals application uses it mainly to normalize country names. The selector buttons in Plant Part 1 and Company Part 1 next to the Country field get their information from this database. Data entered directly in the country field is checked against this table. The 2- and 3- letter codes were included to facilitate E-mail communication but have not been implemented at the current time.

3. VALTABLE.DBF

This database is a general collection of topics that will be used in various validation routines within the application e.g. INTIB Relationship, Type of Organisation, Languages, PetroChemicals - List of Products, Fields of Interest - Manufacturing, Fields of Interest - Non-Manufacturing, UN Languages, Regional Codes. Currently the PetroChemical application uses the PetroChemicals - List of Products to verify the product names being entered and Regional Codes which will be used to allow selection of all companies in a particular region or all companies in a particular region producing a particular product.

4. CITY.DBF

This database contains information on legitimate city names and will be used to spell check the data entry of city names. Generally the user will not be required to type in a city name since all data entry screens where there is a city field have been provided with an "invisible button" that displays on the screen as a ⌘. Clicking on this button pops up a list of valid city names that the user can quickly pick from. The city database also contains information about the country the city belongs to (as defined by PC Globe v.5.0), the region the country belongs to (as defined in the official UNIDO documentation "Commonly Used UNIDO Computer Codes", Chapter 3, Ref. UTR\$103). It also contains fields for Area Code and Telex Codes.

5. REPORTS.DBF

This database is used by the reporting module. It contains a Report Name field which corresponds to a report file that must be present in the same subdirectory as all the program and database files, a Contents field which contains a short description of the report and an administration field that will be used to decide which reports should be displayed. This database is used exclusively by the application and should not be directly edited in any way.

6. INTIBHLP.DBF

This is the on-line Help database for the INTIB application. It can be accessed by pressing **h** anywhere in the application. This file is editable by an experienced database administrator. In the interest of aesthetics, it should however be edited in such a way as to be consistent in appearance with the other Help Items. *Please note however that this editing should only take place using FoxPro v. 2.0 or later and never with dBase (any version) since the memo field in FoxPro is radically different from the xBase standard and editing with dBase would cause irreversible damage to the memo database.*

7. INTIBUSR.DBF

This is the so-called "Resource File" that FoxPro uses to store all its internal information, e.g. this database contains the color sets that were changed to the INTIB application color scheme and it also contains the position of the windows for various browse screens. This database will also contain any information that is entered into the diary/calendar application that can be found under the File menu option. This file is editable by an experienced database administrator. Generally, this will never be needed since the application updates this file automatically as required, and in a way as to be consistent with the rules to which the resource file is subject.

Please note however that - should it be decided to edit this file manually, editing should only take place using FoxPro v. 2.0 or later and never with dBase (any version) since the memo field in FoxPro is radically different from the xBase standard and editing with dBase would cause irreversible damage to the memo database attached to this DBF.

Petrochemicals Databases

The following databases are specific to the PetroChemical program:

8. PLANT.DBF

This database contains information about a plant or company. Items like name, country, contact person, telephone/telex/fax etc. will be stored here. The field REFERENCE is of special importance in this database. It is the key field which ties the information in this database to all the other databases used by the PetroChemicals program. It has the following structure *Cnnnnnnn*, where C will be "P" if the item being referred to references a Plant or "C" if the item being referred to references a Company. *nnnnnnn* will be numbers e.g. P00000001 is the first plant in the database. The next will be P00000002 and so on. Similarly for Companies. This allows the PetroChemicals database to contain a maximum of 9,999,999 Plants and 9,999,999 Companies. Reference numbers are allocated under program control and are fully automatic. The use of this reference field allows for very easy creation of relationships. *Data from Page 1 of the Plant Information questionnaire and Page 1 of the Company Information questionnaire will go into this database.*

9. PCCOMP.DBF (PetroChemicals Database, COMPany)

This database contains additional information specific to a Plant or Company. It is linked to PLANT.DBF via the REFERENCE field. *Data from Page 2 of the Plant Information questionnaire (Capital, Type of Enterprise, Ownership and Other Activities) and Page 2 of the Company Information questionnaire (Capital, Type of Enterprise, Ownership and Activities) will go into this database.*

10. PCCOTURN.DBF (PetroChemicals Database, COmpany TURNOver)

This database contains information specific to a plant's or company's annual turnover as well as information about the number of persons employed by the plant or company at the time of filling up the questionnaire. It is linked to PLANT.DBF via the REFERENCE field. *Data from Page 2 of the Plant Information questionnaire (Annual Information) and Page 2 of the Company Information questionnaire (Annual Information) will go into this database.*

11. PCPROD.DBF (PetroChemicals Database, **PROD**ucts Manufac. Information)

This database contains information specific to a particular plant. It is linked to COMPANY.DBF via the REFERENCE field. Information concerning products manufactured, capacity, Process Licensor etc.. will be entered into this database. *Data from Page 3 of the Plant Information questionnaire (Products Manufactured) will go into this database.*

12. PCSUBSID.DBF (PetroChemicals Database, Manufac. **SUBSID**iaries)

This database contains information specific to a company's manufacturing subsidiaries. It is linked to COMPANY.DBF via the REFERENCE field. *Data from Page 3 of the Company Information questionnaire (Manufacturing Subsidiaries) will go into this database.*

13. PCPROCFD.DBF (PetroChemicals Database, **PROC**ess In**FOR**mation)

This database contains information specific to each process implemented at a particular plant such as Main Product, Licensor, Capacity Investment Costs, etc. It is linked to COMPANY.DBF via the REFERENCE field. *All the data from the Process Information questionnaire will go into this database.* A separate sheet should be filled out for each process that is used at a particular plant.

14. PCPROJFO.DBF (PetroChemicals Database, **PROJ**ect In**FOR**mation)

This database contains information specific to any project being planned or currently being implemented at a plant site. It is linked to COMPANY.DBF via the REFERENCE field. *All the data from the Project Information questionnaire will go into this database.* A separate sheet should be filled out for each project that is being planned or carried out at a particular plant.

To summarize:

The INTIB application at this current stage consists of 14 databases. 7 are system databases that will be used by all programs that might eventually be added to this application. The PetroChemical program consists of 7 databases and makes extensive use of the system databases to normalize as much of the data being entered as possible. Though most of the databases are indexed, this will eventually become less and less important as the number of searches done on the databases using SQL SELECT statements increases. There is already a large amount of SQL used in the application, but this author decided to choose the best of both worlds and used standard indexed SEEK commands whenever they resulted in better optimized and readable code.

The Petrochemicals database is logically divided as follows:

- Plant information
 - a) Plant Part 1 (Screen: Enter Plant Information)
 - b) Plant Part 2 (Screen: Enter Additional Plant Information)
 - c) Plant Part 3 (Screen: Annual Statistics (in millions USD))
 - d) Plant Part 4 (Screen: Enter Products Manufactured)
- Company Information (optional)
 - a) Plant Part 1 (Screen: Enter Company Information)
 - b) Plant Part 2 (Screen: Enter Additional Company Information)
 - c) Plant Part 3 (Screen: Annual Statistics (in millions USD))
 - d) Plant Part 4 (Screen: Enter Manufacturing Subsidiaries Information)
- Project information (Screen: Enter Project Information)
- Process information (Screen: Enter Process Information)

The questionnaires were developed with above mentioned division in mind. Care was also taken not to limit the financial information to the 10 years as was specified in the original analysis of the Petrochemicals Database that was used as a basis for the current one which has now been coded. The present system will be able to collect information indefinitely.

In addition to specific information that each database contains, every database also contains the following information:

1. Input Date
2. Update Date
3. Update Time
4. Updated By

2. Record Descriptions

The following is a detailed description of the structure of the abovementioned databases:

USERINFO.DBF					
Field	Field Name	Type	Width	Dec	Description
1	USERID	C	8	0	User Id. given to that person. Usually the same as the user's Novell Logon ID. Indexed on: UPPER(USERID)
2	LASTNAME	C	15	0	Indexed on: UPPER(LASTNAME)
3	FIRSTNAME	C	15	0	Indexed on: UPPER(FIRSTNAME)
4	MRMS	C	10	0	
5	TITLE	C	12	0	Official Title to be used when corresponding with the person.
6	LANGUAGE	C	8	0	UN Language of choice.
7	PASSWORD	C	8	0	
8	ADMIN DB	L	1	0	Whether the person is a System Database administrator. (.T./F.).
9	ADMIN TB	L	1	0	Whether the person is a Technology Suppliers Database administrator (.T./F.).
10	ADMIN FP	L	1	0	Whether the person is a Focal Points Database administrator (.T./F.).
11	ADMIN PC	L	1	0	Whether the person is a Petrochemicals Database administrator (.T./F.).
12	ADDR 1	C	35	0	First line for entering address information
13	ADDR 2	C	35	0	Second line for entering address information
14	CITY	C	25	0	City information. Will be checked against CITY.DBF.
15	COUNTRY	C	30	0	Country information. Will be checked against COUNTRY.DBF.
16	TELEPHONE	C	20	0	
17	FAX	C	22	0	
18	TELEX	C	15	0	
19	INPUT DT	D	8	0	
20	UPDATE DT	D	8	0	
21	UPDATE TM	C	8	0	
22	UPDATE BY	C	8	0	
23	REMARKS	M	10	0	

COUNTRY.DBF					
Field	Field Name	Type	Width	Dec	Description
1	ALPHA3CODE	C	3	0	Taken from "Commonly used UNIDO Computer Codes" Chapter 4 - UN/UNDP Country Codes in Alpha Code Sequence.
2	NUMCODE	C	3	0	Taken from "Commonly used UNIDO Computer Codes" Chapter 4 - UN/UNDP Country Codes in Alpha Code Sequence.
3	ALPHA2CODE	C	2	0	Taken from a list presented by Ms. Ralston (iNTIB), to maintain compatability with the country codes used in telecommunications.
4	NAME	C	30	0	Name of the country. Indexed on: UPPER(NAME)
5	ACRONYM	C	6	0	
6	DEV_STATUS	C	1	0	Development status: L - least developed, D - developing, W - developed (Wow!)
7	UN_LANG	C	8	0	UN Language. Taken from "Commonly used UNIDO Computer Codes" Chapter 4 - UN/UNDP Country Codes in Alpha Code Sequence.
8	OFF_LANG	C	3	0	Official language of the country. Presently the same as UN Language.
9	INPUT_DT	D	8	0	
10	UPDATE_DT	D	8	0	
11	UPDATE_TM	C	8	0	
12	UPDATE_BY	C	8	0	

VALTABLE.DBF

Field	Field Name	Type	Width	Dec	Description
1	CODE	C	4	0	001H - INTIB RELATIONSHIP 002H - TYPE OF ORGANIZATION 003H - LANGUAGES 004H - PETROCHEMICALS - LIST OF PRODUCTS 005H - FIELDS OF INTEREST - MANUFACTURING 006H - FIELDS OF INTEREST - NON-MANUFACTURING 007H - UN LANGUAGES 008H - REGIONAL CODES Indexed on: CODE
2	DESCRIP	C	50	0	Textual description of the code. Indexed on: UPPER(DESCRIP)
3	INPUT DT	D	8	0	
4	UPDATE DT	D	8	0	
5	UPDATE TM	C	8	0	
6	UPDATE BY	C	8	0	

The following is a sample of the items currently in VALTABLE.DBF and is meant to give the reader of this paper a feel for the type of information that will eventually be stored here.

Code	Description
001H	INTIB RELATIONSHIP
001I	INTIB National Focal Point
001I	INTIB Regional Focal Point
001I	INTIB National Node
001I	INTIB Regional Node
001I	Technology Supply Database Club
001I	SMI Focal Point
001I	ECONET Focal Point
001I	PetroChemicals Focal Point
001I	Project DP/RER/87/036
001I	Project DP/RER/83/001
001I	Project DP/PHI/86/016
001I	Technology Supplier Database Club
001I	PetroChemical Database Company
001I	UNDP
001I	Consultant
001I	INTIB Contact
001I	Electronic Mail Connection
001I	UNIDO Country Representative
001I	UN RESREP
002H	TYPE OF ORGANIZATION
002I	UN, Specialized agency or other UN Body
002I	Other intergovernmental organization
002I	International non-governmental Organization
002I	UNIDO National Committee
002I	Embassy or Mission to UNIDO
002I	Government Body for Development Aid
002I	Ministry of Industry
002I	Other Governmental Department
002I	Non-Governmental Aid Agency
002I	Chamber of Industry or Commerce
002I	Manufacturer's Association
002I	Trade Center or Association
002I	Professional Association/Learned Society
002I	Bank or Financial Institution
002I	Industrial Enterprise
002I	Public Utility
002I	Trading Concern
002I	Engineering Organization

Code	Description
002I	Consultant
002I	University
002I	Vocational or Technical Institute/School
002I	Industrial Training or Productivity Center
002I	Research Center/Laboratory
002I	Library/Documentation Center
002I	Information Center
002I	Publisher
002I	Bookseller
002I	News Agency/Press
002I	Radio and Television
002I	Private Company
003H	LANGUAGES
003I	English
003I	French
003I	Spanish
003I	German
003I	Russian
003I	Italian
003I	Polish
003I	Danish
003I	Arabic
003I	Bulgarian
003I	Chinese
003I	Czech
004H	PETROCHEMICALS - LIST OF PRODUCTS
004I	2EH (2-Ethyl hexanol)
004I	ABS (Acrylonitrile butadiene Styrene)
004I	Acetaldehyde
004I	Acetic Acid
004I	Acetone
004I	ACN (Acrylonitrile)
004I	Acrylic acid
004I	Acrylic ester
004I	Acrylic-fibre
004I	Adipic acid
004I	Benzene
004I	Benzol
004I	BHC (Benzene hexa chloride)
004I	Bisphenol-A
004I	BR (Butadiene rubber)
004I	BTX (Benzene, Toluene, Xylene)
004I	Butadiene

Code	Description
004I	Butanol
004I	Butene-1
004I	Butyl acetate
004I	Caprolactam
004I	Chlorine
004I	Creosote
004I	Cumene
004I	DDB (Dodecylbenzene)
004I	Diethyl benzene
004I	Diisocyanates
004I	Dimersol
004I	Divinyl benzene
004I	DMT (Dimethyl terephthalate)
004I	DOP (Dioctyl phthalate)
004I	EDC (Ethylene dichloride)
004I	EG (Ethylene glycol)
004I	EO (Ethylene oxide)
004I	Ethane
004I	Ethanol
004I	Ethanolamines
004I	Ethyl acetate
004I	Ethylbenzene
004I	Ethylene
004I	EVA (Ethylene Vinyl acetate)
004I	Formaldehyde
004I	Formaline
004I	HDPE (High density Polyethylene)
004I	Hexamine
004I	Hexane
004I	Isopropanol
004I	Kerosene
004I	LAB (Linear Alkyl Benzene)
004I	LDPE (Low density Polyethylene)
004I	LLDPE (Linear low density Polyethylene)
004I	LNG (Liquefied natural gas)
004I	LPG (Liquified petroleum gas)
004I	MA (Maleic anhydride)
004I	MEG (Monoethylene glycol)
004I	Melamine
004I	Methanol
004I	MMA (Methyl methacrylate)
004I	MTBE (Methyl tert. butyl ether)
004I	Naphta

Code	Description
004I	Naphthalene
004I	NG (Natural Gas)
004I	NGL (Natural Gas liquid)
004I	Nylon-chip
004I	Nylon-fibre
004I	Nylon-filament
004I	Olefin-fibre
004I	Oxygen
004I	PA (Polyamide = Nylon)
004I	PA (Phthalic anhydride)
004I	PB (Polybutadiene)
004I	PC (Polycarbonate)
004I	PE (Polyethylene)
004I	PET fibre
004I	PET (Polyethylene terephthalate)
004I	PET Chips
004I	PG (Propylene glycol)
004I	Phenol
004I	Platformate
004I	PMMA (Polymethyl methacrylate)
004I	PO (Propylene oxide)
004I	Polyester
004I	Polyester-chip
004I	Polyester-fibre
004I	Polyester-filament
004I	Polyester-resin
004I	PP (Polypropylene)
004I	PPG (Polypropylene glycol = Polyols)
004I	Propylene
004I	PS (Polystyrene)
004I	PS-E (Polystyrene, Expanded)
004I	PS-GP (Polystyrene, General purpose)
004I	PS-HI (Polystyrene, High impact)
004I	PTA (Purified Terephthalic acid)
004I	PTFE (Poly tetra fluoro ethylene)
004I	PU (Polyurethane)
004I	PVA (Polyvinyl acetate)
004I	PVC (Polyvinyl chloride)
004I	Resin - Urea
004I	Resin-ABS
004I	Resin-Melamine
004I	Resin-PF
004I	Resin-Phenolic

Code	Description
004I	Resin-SAN
004I	Resin-synthetic
004I	Resin-UF
004I	SAN (Styrene Acrylonitrile elastomer)
004I	SBR (Styrene Butadiene rubber)
004I	Styrene
004I	Tar
004I	TDI (Toluene diisocyanate)
004I	Toluene
004I	TPA (Terephthalic Acid)
004I	TPE (Thermoplastic elastomer)
004I	Urea
004I	VAM (Vinyl acetate monomer)
004I	VCM (Vinyl Chloride Monomer)
004I	Xylene
004I	Xylene-mixed
004I	Xylene-ortho
004I	Xylene-para
005H	FIELDS OF INTEREST - MANUFACTURING
005I	Food Processing
005I	Beverages
005I	Tobacco
005I	Textile and Garments
005I	Leather
005I	Wood Processing
005I	Pulp and Paper
005I	Petrochemicals and Plastics
005I	Industrial Chemicals and Plastics
005I	Pharmaceuticals and Other Chemical Products
005I	Rubber
005I	Non-metallic Mineral Prods. & Build. Material
005I	Iron and Steel
005I	Non-ferrous Metals
005I	Fabricated Metal Products
005I	Machinery
005I	Electrical Machinery
005I	Transport Equipment
005I	Precision Instruments
005I	Agricultural Machinery
006H	FIELDS OF INTEREST - NON-MANUFACTURING
006I	Mining and Quarrying
007H	UN LANGUAGES
007I	English

Code	Description
007I	French
007I	Spanish
007I	Chinese
007I	Russian
007I	Arabic
008H	REGIONAL CODES
008I	Africa
008I	Asia and Pacific
008I	The Americas
008I	Europe
008I	Global and Interregional
008I	African Arab States
008I	Western Asia Arab States
008I	Arab Regional

CITY.DBF					
Field	Field Name	Type	Width	Dec	Description
1	NAME	C	25	0	Name of the city entered as a proper name i.e. first letter caps. Indexed on: UPPER(NAME)
2	COUNTRY	C	30	0	Country to which this city belongs. Picked out of the COUNTRY.DBF
3	REGION	C	50	0	Region in which this country lies. Picked out of VALTABLE.DBF
4	AREA_CODE	C	5	0	Telephone area code. Will be used to store the codes required to dial up the city from Vienna.
5	TELEX	C	3	0	
6	INPUT DT	D	8	0	
7	UPDATE DT	D	8	0	
8	UPDATE TM	C	8	0	
9	UPDATE BY	C	8	0	

REPORTS.DBF					
Field	Field Name	Type	Width	Dec	Description
1	REPORTNAME	C	8	0	Name of the report file (.FRX) Indexed on: REPORTNAME
2	CONTENTS	C	31	0	Short description of what the report contains
3	MODTYPE	C	8	0	Which module this report belongs to e.g. patch. This way one database can be used for all the programs that might eventually come and the user will see only those reports that pertain to the program he is currently in.
4	NOTES	M	10	0	This will be used by the developer to write notes re. the various reports

INTIBHLP.DBF					
Field	Field Name	Type	Width	Dec	Description
1	TOPIC	C	60	0	Help topics that appear when the user presses F1
2	DETAILS	M	10	0	Contains the actual text of the help message
3	CLASS	C	20	0	Contains a class which will be used to selectively display help e.g. class patch will only display records belonging to the Petrochemical program.

INTIBUSR.DBF

Field	Field Name	Type	Width	Dec	Description
1	TYPE	C	12	0	
2	ID	C	12	0	
3	NAME	C	24	0	
4	READONLY	L	1	0	
5	CKVAL	N	6	0	
6	DATA	M	10	0	
7	UPDATED	D	8	0	

PCSUBSID.DBF

Field	Field Name	Type	Width	Dec	Description
1	REFERENCE	C	8	0	Points to the company to which this manufacturing subsidiary belongs. Indexed on: REFERENCE
2	NAME	C	70	0	Indexed on: NAME
3	LOCATION	C	25	0	Indexed on: LOCATION
4	INPUT DT	D	8	0	
5	UPDATE DT	D	8	0	
6	UPDATE TM	C	8	0	
7	UPDATE BY	C	8	0	

PLANT.DBF

Field	Field Name	Type	Width	Dec	Description
1	REFERENCE	C	8	0	This field will connect all records belonging to this plant in all the other databases together. Indexed on: REFERENCE
2	COMPREF	C	8	0	
3	NAME	C	70	0	Indexed on: UPPER(NAME)
4	ACRONYM	C	10	0	
5	COUNTRY	C	30	0	
6	CITY	C	25	0	
7	REGION	C	50	0	
8	ADDR 1	C	35	0	
9	ADDR 2	C	35	0	
10	TELEPHONE1	C	20	0	
11	TELEPHONE2	C	20	0	
12	TELEPHONE3	C	20	0	
13	TELEX	C	15	0	
14	FAX	C	20	0	
15	CABLE	C	20	0	
16	EMAIL CARR	C	15	0	
17	EMAIL ID	C	20	0	
18	CHIEF MRMS	C	10	0	
19	CHIEF NAME	C	30	0	
20	CHIEF TITL	C	12	0	
21	CHIEF TEL	C	20	0	
22	CHIEF FAX	C	20	0	
23	CONT MRMS	C	10	0	
24	CONT NAME	C	30	0	
25	CONT TITL	C	12	0	
26	CONT TEL	C	20	0	

PLANT.DBF					
Field	Field Name	Type	Width	Dec	Description
27	CONT FAX	C	20	0	
28	INPUT DT	D	8	0	
29	UPDATE DT	D	8	0	
30	UPDATE TM	C	8	0	
31	UPDATE BY	C	8	0	

PCCOMP.DBF					
Field	Field Name	Type	Width	Dec	Description
1	REFERENCE	C	8	0	Indexed on: REFERENCE
2	CAPITAL	N	8	2	
3	PRIV COMP	L	1	0	
4	LIMI LIAB	L	1	0	
5	UNLI PART	L	1	0	
6	STAT ENTE	L	1	0	
7	JOIN ENTE	L	1	0	
8	COMP SHAR	L	1	0	
9	PRIVATE	N	6	2	
10	STATE	N	6	2	
11	NATIONAL	N	6	2	
12	FOREIGN	N	6	2	
13	MANUFAC	L	1	0	
14	R AND D	L	1	0	
15	ENGINEERIN	L	1	0	
16	CONTRACTIN	L	1	0	
17	TRAINOWN	L	1	0	
18	TRAINOUTSI	L	1	0	
19	ESTAB YEAR	C	4	0	
20	INPUT DT	D	8	0	
21	UPDATE DT	D	8	0	

PCCOMP.DBF					
Field	Field Name	Type	Width	Dec	Description
22	UPDATE TM	C	8	0	
23	UPDATE BY	C	8	0	

PCCOTURN.DBF					
Field	Field Name	Type	Width	Dec	Description
1	REFERENCE	C	8	0	Indexed on: REFERENCE
2	YEAR	C	4	0	Indexed on: YEAR
3	GROSSPROF	N	8	2	
4	ADDEDVAL	N	8	2	
5	RDEXPEND	N	8	2	
6	INVEXPEND	N	8	2	
7	SALES	N	8	2	
8	EXPORTS	N	8	2	
9	EMPLOYEES	N	5	0	
10	INPUT DT	D	8	0	
11	UPDATE DT	D	8	0	
12	UPDATE TM	C	8	0	
13	UPDATE BY	C	8	0	

PCPROD.DBF

Field	Field Name	Type	Width	Dec	Description
1	REFERENCE	C	8	0	Indexed on: REFERENCE
2	NAME	C	50	0	This field is normalized against the values in VALTABLE.DBF Indexed on: NAME
3	CAPACITY	N	8	0	
4	FEEDSTOCK	C	50	0	
5	LICENSOR	C	50	0	
6	STARTYEAR	C	4	0	
7	CURRPROD	N	8	0	
8	PRODCAPTIV	L	1	0	
9	PRODEXPORT	L	1	0	
10	FEEDCAPTIV	L	1	0	
11	FEEDIMPORT	L	1	0	
12	INPUT DT	D	8	0	
13	UPDATE DT	D	8	0	
14	UPDATE TM	C	8	0	
15	UPDATE BY	C	8	0	

PCPROCFO.DBF

Field	Field Name	Type	Width	Dec	Description
1	REFERENCE	C	8	0	Indexed on: REFERENCE
2	MAINPROD	C	50	0	Indexed on: MAINPROD
3	LICENSOR	C	50	0	
4	CHARACTER	C	150	0	
5	CAPACIFROM	N	8	0	
6	CAPACITO	N	8	0	
7	CAPACISTD	N	8	0	
8	INVESTMENT	N	8	2	
9	BYPROD1	C	50	0	
10	BYTON1	N	5	2	
11	BYPROD2	C	50	0	
12	BYTON2	N	5	2	
13	BYPROD3	C	50	0	
14	BYTON3	N	5	2	
15	BYPROD4	C	50	0	
16	BYTON4	N	5	2	
17	BYPROD5	C	50	0	
18	BYTON5	N	5	2	
19	RAWPROD1	C	50	0	
20	RAWTON1	N	5	2	
21	RAWPROD2	C	50	0	
22	RAWTON2	N	5	2	
23	RAWPROD3	C	50	0	
24	RAWTON3	N	5	2	
25	RAWPROD4	C	50	0	
26	RAWTON4	N	5	2	
27	RAWPROD5	C	50	0	
28	RAWTON5	N	5	2	

PCPROCFO.DBF

Field	Field Name	Type	Width	Dec	Description
29	POWER	N	7	2	
30	STEAM	N	7	2	
31	PROCWATER	N	7	2	
32	COOLWATER	N	7	2	
33	OTHERENER	N	7	2	
34	INPUT DT	D	8	0	
35	UPDATE DT	D	8	0	
36	UPDATE TM	C	8	0	
37	UPDATE BY	C	8	0	

PCPROJFO.DBF

Field	Field Name	Type	Width	Dec	Description
1	REFERENCE	C	8	0	Indexed on: REFERENCE
2	MAINPROD	C	50	0	Indexed on: MAINPROD
3	LICENSOR	C	50	0	
4	CHARACTER	C	150	0	
5	CAPEXTENS	L	1	0	
6	REVAMPING	L	1	0	
7	NEWINVEST	L	1	0	
8	GRASSROOT	L	1	0	
9	ENGCOMPANY	C	70	0	
10	CONCOMPANY	C	70	0	
11	STARTYEAR	C	4	0	
12	CAPACITY	N	8	0	
13	INVESTMENT	N	8	2	
14	STUDY	L	1	0	
15	PLANNING	L	1	0	
16	ENGINEERIN	L	1	0	
17	UNDERCONST	L	1	0	
18	STARTUP	L	1	0	
19	COMPLETED	L	1	0	
20	INPUT DT	D	8	0	
21	UPDATE DT	D	8	0	
22	UPDATE TM	C	8	0	
23	UPDATE BY	C	8	0	

3. Screen Layouts

The following screen dumps show some of the screen formats in use by the program.

The program uses the standard CUA -style menu system. A mouse can also be used and it facilitates working with the program a lot. All items that are available to be chosen can be picked from popup lists e.g. selecting a plant to be edited. Wherever possible the data is checked against predefined values to guarantee that spelling errors are not introduced into the data e.g. country names, city names, product names.

The following screen dumps also demonstrate how the PetroChemicals database would fit together with all the other databases that might eventually be developed. Any update work on any of the system databases would immediately become apparent in the PetroChemicals database as well. Since the application is designed to run on a server, this updating could be done from anywhere in the UNIDO. This increases the utility of the program. Different people could be put in charge of updating different portions of the database system. Since there is only one copy of the database system in use, this would prevent duplication of work with all its inherent problems, as well as guarantee access to the application from anywhere within the UNIDO Token Ring network. Should the Token Ring backbones be extended horizontally (IAEA and UNOV) this would widen the availability of the use of the application.

F S D H R 4:32:43 pm

U N I D O
UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

INDUSTRIAL AND TECHNOLOGICAL INFORMATION BANK
INTIB Databases - (C) Copyright UNIDO 1992

F 4:31:45 pm

Report	Description	
add_dir	Address Directory	<input type="checkbox"/>
agg_cap	Aggregate Reg./Country Capacity	
pet_prod	Petrochemical Producers	
pro_sou	Product Source	
<input checked="" type="checkbox"/> Preview <input type="checkbox"/> To File		<input type="button" value="HP Deskjet Plus"/>
		Filter: <input type="text" value="I For..."/>
<input type="button" value="OK"/> < <input type="button" value="Cancel"/> >		

F S D M R 4:33:06 pm

Plant Name: _____ Acronym: _____

Ad _____ Plant Names _____

Te Daelin Industrial Company Limited
 Daemyong Petrochemical Industry Company Limited
 Lucky Petrochemicals Ltd.
 Plant 1
 Plant 2
 Plant 3
 Plant 4

Of _____ UNIDO/INTIB

Fax: _____

Con Name: _____

Tel.: _____

Fax: _____

ENTER

F S D M R 4:33:20 pm

Enter Plant Information

Plant Name: Daelin Industrial Company Limited Acronym: DIDL

Address: 1-6, Simcha-Dong, Chung-Gu City: Seoul
 Country: REPUBLIC OF KOREA

Telephone: (923) 753 7070 E-Mail ID: _____
 E-Mail Carrier: _____

Telex: HUNETH 829410

Fax: (923) 753 4911

Cable: HUNAM ETHYLENE

Official Title: Mr./Ms.: _____ CEO Name: Chang Hong Kyu
 Tel.: (267) 542189
 Fax: ()

Con Name: H. S. Park
 Tel.: ()
 Fax: ()

24/03/92 63/11/92 04:43:20 ADMIN

UNIDO/INTIB

P
 U
 A
 I
 O

FIG. S-122 D... R... B... 4:33:40 pm

Enter Additional Plant Information

Capital: 6.00 (in millions USD)

Type of Enterprise:
 Private Limited Liability Unlimited Partnership
 State Enterprise Joint Enterprise By Shares

Ownership (percentage participation):
 Private: 100.00 State: 0.00 National: 0.00 Foreign: 0.00

Other Activities:
 R&D Engineering Contracting
 Training Own Staff Training Outsiders

Year of Establishment: 1979 < Cancel >
 < Update & Quit >

UNIDO/INTIB

24/05/92 03/11/92 04:43:20 ADMIN

FIG. S-122 D... R... B... 1:31:11 pm

Plant Name: _____ Acronym: _____

Daelin Annual Statistics (in millions USD)

Address	Year			
	1979			
Teleph	Gross Profit:	Added Value:		
	500.00	0.00		
Te	R&D Expenditure:	Investment Expenditure:		
	5.00	0.00	< Select Year >	
Ca			< Add Year >	
Offici	Sales:	Exports:	< Delete Year >	
	200.00	0.00	< Cancel >	
	Employees:			
	0			

UNIDO/INTIB

24/05/92 03/11/92 04:43:20 ADMIN

Plant Name: _____ Acronym: _____

Enter Products Manufactured

Product Name: Acetone ↑

Capacity: 12,346 (Tons/Year)

Feedstock: Acrylic-fibre ↑

Process Licensor: Acrylic-fibre Licensor

Start-Up Year: _____

Current Production: 12,346 (Tons/Year)

Product Destination: < Select Product >

Captive Use Export < Add Product >

Captive Use Import < Delete Product >

Captive Use Import < Cancel >

UNIDO/INTIB

24/09/92 03-11/92 04:43:26 ADMIN

Enter Manufacturing Subsidiaries Information

Heng Pong Po Abidjan

Name: Heng Pong Po < Add Subsid. >

Location: Abidjan < Delete Subsid. >

Captive Use Import < Cancel >

UNIDO/INTIB

Page 5 of 5 D:\... H... R... 4:36:36 pm

Enter valid country names

AFGHANISTAN
ALBANIA
ALGERIA
ANGOLA
ANGUILLA

Name: _____

Country Codes: _____ < Add Country >

2 digit: _____ 3 digit: _____ Numeric: _____ < Cancel >

Acronym: _____ UN Language: _____

UNIDO/INTIB

Page 5 of 5 D:\... H... R... 4:37:08 pm

Edit User Information

Official Title: Mr./Ms.: First Name: Nicholas
Last Name: _____

City:

Address: _____ Tel.: () _____
Telex: _____
Remarks: _____ Fax: () _____

Country:

CTRL+TAB to exit

User Id.: ADMIN [X] INTIB Application Adnin. < Select User >
Password: ADMIN < Add User >
[X] Petrochemicals Adnin. < Delete User >
< Cancel >

UN Language:

UNIDO/INTIB

File Search Database Maintenance Reports 4:37:34 pm

Enter valid city names

Denmark	DENMARK
Reykjavik	REYKJAVIK
Copenhagen	COPENHAGEN
Islamic Republic of Mauritania	ISLAMIC REPUBLIC OF MAURITANIA
Niger	NIGER
King of the Netherlands	KING OF THE NETHERLANDS
East Africa	EAST AFRICA
Arabia	ARABIA
Syrian Arab Republic	SYRIAN ARAB REPUBLIC

Name: _____ < Add City >
Country: _____ < Delete City >
Region: _____ < Cancel >
Area Code (Tel.): _____
Area Code (Telex): _____

UNIDO/INTIB

File Search Database Maintenance Reports 4:38:05 pm

Enter valid Values

2EH (2-Ethyl hexanol)
ABS (Acrylonitrile butadiene Styrene)
ACN (Acrylonitrile)
Acetaldehyde
Acetic Acid
Acetone
Acetylene
Acrylic acid
Acrylic ester

Topic: _____ < Add Topic >
Item: _____ < Add Item >
_____ < Delete Topic >
_____ < Delete Item >
_____ < Cancel >

UNIDO/INTIB

4. Questionnaire

The PetroChemicals Database Questionnaire is subdivided into the following categories:

- **Company Information (3 pages)**

For the purpose of this questionnaire, a **Company** is defined as follows:

A legal person engaged in petrochemical activity. Independent companies fully or partially owned by multinationals are considered as separate companies. Different plants of the same company having no independent legal personality are grouped together within the same company, but under the subgroups of "plants".

This category should be filled out at the Company Headquarters and reflects information about the Company in general and - wherever figures are requested - represents totals for the entire company.

- **Plant Information (3 pages)**

For the purpose of this questionnaire, a **Plant** is defined as follows:

A locally defined part of the company. It is composed of one or more production units.

This information refers to each Manufacturing Plant owned by the Company. Should the company own more than one plant then the pages should be photocopied and one set filled out for each plant.

- **Process Information (1 page)**

For the purpose of this questionnaire, a **Process** is defined as follows:

A chemical process used in the petrochemical industry for manufacturing one product or a given set of products under given conditions and using specific equipment.

This information refers to each Process used within a Production Unit. Should the production unit be using more than one Process then the page should be photocopied and one page filled out for each Process.

- **Project Information (1 page)**

For the purpose of this questionnaire, a **Project** is defined as follows:

An investment for the realisation of a petrochemical manufacturing unit.

This information refers to each Project currently being carried out or that was implemented since the last time the questionnaire was filled out, within a Manufacturing Plant. Should the Manufacturing plant currently be implementing more than one Project then the page should be photocopied and one page filled out for each Project.

Definitions of some of the other terms used in the questionnaire:

ACRONYM

Internationally used short name.

GROSS PROFIT

The sum from the corresponding heading in the accounts of the company. Value in millions of USD.

INVESTMENT EXPENSES

The total sum of all the expenses incurred either from own or subcontracted investment work in millions of USD.

LICENSOR

An enterprise having the legal right to licence a process.

R&D EXPENSES

The total sum of all the expenses incurred either for own or subcontracted research and development work in millions of USD.

SALES

The sum from the corresponding heading in the accounts of the company in millions of USD.

STAFF

The number of persons employed.

STANDARD CAPACITY

The typical and mostly used capacity for a given process. The investment costs and specific values refer to this capacity.

USD

United States Dollars.

General Guidelines for filling up the questionnaire:

- Most of the items in the questionnaire have two fields (one white and below it, one shaded). The first time a company is sent the questionnaire, both these fields will be blank. The company should use the white field to enter the relevant information. On receipt of the filled out questionnaire, INTIB will enter this information into the database. The date of entry is also stored. One year from this date the program will automatically print the stored information using the white fields wherever possible. This filled out questionnaire will then be sent back to the company it refers to for validation and updating. Any changes to be made should then be typed into the shaded field below this.
- The first time the questionnaire is sent to a company, all the subcategories will be directed to the Company Headquarters. The person in charge of filling out the questionnaire is invited to photocopy the relevant parts and send them further (to Plants) as required. The Company should in their reply to INTIB, specify if subsequent questionnaires be directed via Company Headquarters or whether they should be sent directly to the various plants.



Industrial and Technological Information Bank (INTIB)

Petrochemicals Database -- Company Information (Page 1 of 3)

Company Name:		Acronym:	

Address:

Street:			
City:	Postal Code:	Country:	
Tel.:	Tel.:	Tel.:	
Telex:	Telefax:	Cable:	

Electronic Mail:

ID:	Carrier:

Chief Executive Officer:

Name:	Title:
Tel.:	Telefax:

Can the CEO be contacted directly.

YES NO If NO, pls. mention who can be contacted.

Contact Person:

Name:	Title:
Tel.:	Telefax:



Industrial and Technological Information Bank (INTIB)

Petrochemicals Database -- Company Information (Page 2 of 3)

Capital:		Millions USD

Type of Enterprise:

Private Company <input type="checkbox"/>	Limited Liability Company <input type="checkbox"/>	Unlimited Partnership Company <input type="checkbox"/>
State Enterprise <input type="checkbox"/>	Joint Enterprise <input type="checkbox"/>	Company by Shares <input type="checkbox"/>

Ownership (percentage participation):

Private		State	
National		Foreign	

Activities (please tick the cells that are applicable):

Manufacturing	R&D	Engineering	Contracting	TRAINING	
				Own Staff	Outsiders

Annual Information (statistics) in millions of USD:

Turnover	1991	1990	1989	1988	1987
Gross Profit					
Added Value					
R&D Expenditure					
Investment Expenditure					
Sales					
Exports					
No. of Employees					

Year of Establishment	



Industrial and Technological Information Bank (INTIB)

Petrochemicals Database – Plant Information (Page 1 of 3)

Plant Name:		Acronym:	

Address:

Street:			
City:	Postal Code:	Country:	
Tel.:	Tel.:	Tel.:	
Telex:	Telefax:	Cable:	

Electronic Mail:

ID:	Carrier:

Chief Executive Officer:

Name:	Title:
Tel.:	Telefax:

Can the CEO be contacted directly.

YES NO If NO, pls. mention who can be contacted.

Contact Person:

Name:	Title:
Tel.:	Telefax:



Industrial and Technological Information Bank (INTIB)

Petrochemicals Database –Plant Information (Page 2 of 3)

Capital:		Millions USD

Type of Enterprise:

Private Company <input type="checkbox"/>	Limited Liability Company <input type="checkbox"/>	Unlimited Partnership Company <input type="checkbox"/>
State Enterprise <input type="checkbox"/>	Joint Enterprise <input type="checkbox"/>	Company by Shares <input type="checkbox"/>

Ownership (percentage participation):

Private		State	
National		Foreign	

Other Activities (please tick the cells that are applicable):

R&D	Engineering	Contracting	TRAINING	
			Own Staff	Outsiders

Annual Information (statistics) in millions of USD:

Turnover	1991	1990	1989	1988	1987
Gross Profit					
Added Value					
R&D Expenditure					
Investment Expenditure					
Sales					
Exports					
No. of Employees					

Year of Establishment	



Industrial and Technological Information Bank (INTIB)

Petrochemicals Database -- Process Information (Page 1 of 1)

Please fill in a separate sheet for each process !

General Information:

Plant:	
Main Product:	Licensor:
Process Characteristics:	

Capacity range (in tons/year):	From:	To:
Standard Capacity (in tons/year):		
Investment cost for standard capacity (in Millions of USD):		

Specific Values (for 1 ton of main product):

Byproducts	Name	Ton/Ton
1.		
2.		
3.		
4.		
5.		

Raw Materials	Name	Ton/Ton
1.		
2.		
3.		
4.		
5.		

Power		kwh/ton
Steam		ton/ton
Process water		m3/ton
Cooling water		m3/ton
Other Energy		Mjoule/ton

Please attach all public information on the process: flow-sheets, process description, reference lists,



Industrial and Technological Information Bank (INTIB)

Petrochemicals Database -- Project Information (Page 1 of 1)

Please fill in a separate sheet for each project !

General Information:

Plant Name:	
Main Product:	Licensor:
Process Characteristics:	
Project Description (please tick the cell that is applicable)	Capacity extension
	Revamping
	New investment on existing site
	Grass-root project
Engineering Company:	
Contracting Company:	
Planned Start-Up Year:	

Capacity (in metric tons/year of main product):	
Investment cost (in millions of USD):	

Status (please tick the cell that is applicable)	Study
	Planning
	Engineering
	Under construction
	Start-up
	Completed

5. Verbal Description

The following is a description of some of the terms that are used within the body of the preceding text

ACRONYM

Internationally used short name.

ENTERPRISE

A legal person engaged in petrochemical activity. Independent companies fully or partially owned by multinationals are considered as separate enterprises. Different plants of the same enterprise having no independent legal personality are grouped together within the same enterprise, but under the subgroups of "plants".

GROSS PROFIT

The sum from the corresponding heading in the accounts of the company. Value is stored in millions of USD.

INVESTMENT COST

The total capital used for the project implementation (battery limits only).

INVESTMENT EXPENSES

The total sum of all the expenses incurred either for own or subcontracted investment work in millions of USD.

LICENSOR

An enterprise having the legal right to licence a process.

PLANT

A locally defined part of the enterprise. It is composed of one or more production units.

PROCESS

A chemical process used in the petrochemical industry for manufacturing one product or a given set of products under given conditions and using specific equipment.

PROJECT

An investment for the realisation of a petrochemical manufacturing unit.

RAW MATERIAL

The basic materials entering the petrochemical industry. Will be stored in the Values database.

R&D EXPENSES

The total sum of all the expenses occurred either for own or subcontracted research and development work in millions of USD.

SALES

The sum from the corresponding heading in the accounts of the company.
Value in millions of USD.

STAFF

The number of persons employed.

STANDARD CAPACITY

The typical and mostly used capacity for a given process. The investment costs and specific values refer to this capacity.

STARTUP DATE

The year in which the unit started commercial production.

UNIT

A petrochemical production line serving for the manufacturing of a given product or of a given set of products.

6. List of Products

1. RAW MATERIALS

Crude Oil
Naphta and Gasoline
LPG
Fuel Oil
Natural Gas
 associated
 non-associated
Ethane
Coal
Others

2. PETROCHEMICAL PRODUCTS

2.1. BASIC PETROCHEMICALS

2.1.1 Aliphatics

Olefins

Ethylene
Propylene
Butadiene
Butenes
Other Alkenes

Others

Methanol
Others

2.1.2 Cyclics

Cyclohexane
Other Cyclics

2.1.3 Aromatics

Benzene
Toluene
Xylenes o
 p
 mixtures
Ethylbenzene
Naphthalene

Others

2.2 INTERMEDIATES

2.2.1 Aliphatic Compounds

2.2.1.1 C1 Compounds

Formaldehyde
Formic Acid
Others

2.2.1.2 C2 Compounds

Ethylalcohol
Acetic Acid/anhydride
Acetale (Acetic Aldehyde)
Ethylene Oxide (Etox)
Ethylene Glycol
Others

2.2.1.3 C3 Compounds

Propylene Oxide
C3 Alcohols
Acetone
Propylene Glycol
Others

2.2.1.4 C4 Compounds

Maleic Acid/Anhydride
Others

2.2.1.5 C5+ Compounds

Alkanes
Alkenes
Oxoalcohols
Polyols
Fatty Alcohols
Fatty Acids
Others

2.2.1.6 Others

- Aliphatic Alcohols (except Fatty Alcohols)
- Aliphatic Amines
- Chlorinated Aliphatic Hydrocarbons
- Others

2.2.2 Cyclics

- Cyclohexanol
- Others

2.2.3 Aromatic Compounds

- Phenole
- Cresole
- Aniline
- Styrene
- Phtalic Anhydride
- Terephtalic Acid
- Chlorinated Aromatics
- Nitro-Aromatics
- Others

2.2.4 Monomers

- Acrylonitril
- VCM
- VAcM
- Caprolactam
- Acrylates and Metacrylates
- Adipic Acid
- Isocyanates
- Others

2.2.5 Others

2.3 End Products

2.3.1 Plastics

2.3.1.1 Thermoplastics

- Polyethylene HD
- LD
- LLD

Polypropylene
PVC
PVaC
Polystyrene
Acrylics
Polyurethanes
Others

2.3.1.2 Thermosettings

Phenole-Cresole-Formaldehyde Resins (PF)
Urea-Formaldehyde Resins (UF)
Melamine Resins
Others

2.3.1.3 Non-Plastic Resins

Epoxy
Alkyds
Esters
Others

2.3.2 Elastomers

Polybutadiene
Polyisoprene
SBR
ABS
Others
Natural Rubber

2.3.3 Fibres

PAN (Polyacrylonitril)
Nylon 6
Nylon 66
Polyester
Polypropylene
Others

2.3.4 Surfactants

2.3.5 Others

7. Thesaurus

ACETALE = ACETIC ALDEHYDE = CH_3CHO

ACETIC ACID = CH_3COOH

ACETIC ALDEHYDE (see ACETALE)

ACETONE = C_3 KETONE

ALIPHATICS = Hydrocarbons and derivatives with open carbon chains.

ALKANES = Saturated aliphatic compounds

ALKENES = Aliphatic compounds with one double bond

ANHYDRIDE ACETIC = $(\text{CH}_3\text{CO})_2\text{O}$

ANILINE = $\text{C}_6\text{H}_5\text{NH}_2$

ASSOCIATED NATURAL GAS = The natural gas extracted from the oil wells together with the crude oil.

BENZENE = C_6H_6

BUTADIENE = $\text{CH}_2=\text{CH}-\text{CH}=\text{CH}_2$

BUTENES = C_4 olefins with one double bond

COAL = All carbon containing solid fuel of all ages

CRESOLES = Methylphenoles

CRUDE OIL. Sometimes called improperly simply oil, the liquid hydrocarbon mixture extracted from the oil wells.

CYCLICS = Organic compounds with closed rings

CYCLOHEXANE = Saturated ring formed by six carbon atoms

CYCLOHEXANOLE = Cyclohexane with one alcohol function

DIESEL OIL (see FUEL OIL)

DIMETHYLBENZENES (see XYLENES)

ETHANE = C_2H_6

ETHANEDIOL (see ETHYLENEGLYCOLE)

ETHANOL (see ETHYLALCOHOL)

ETHENE (see ETHYLENE)

ETHYLALCOHOL = ETHANOL = $\text{CH}_3\text{CH}_2\text{OH}$

ETHYLBENZENE = $\text{C}_2\text{H}_5\text{C}_6\text{H}_6$

ETHYLENE = ETHENE = $\text{CH}_2=\text{CH}_2$

ETHYLENE GLYCOLE = ETHANEDIOL = $\text{CH}_2\text{OHCH}_2\text{OH}$

ETHYLENE OXIDE = ETOX = $\text{CH}_2\text{CH}_2\text{O}$

ETOX (see ETHYLENE OXIDE)

FATTY ACIDS = Linear aliphatic acids with long chains

FATTY ALCOHOLS = Linear aliphatic alcohols with long chains

FORMALDEHYDE = METHANAL = CH_2O

FORMIC ACID = HCOOH

FUEL OIL = diesel oil. For our purposes, the fraction used for domestic heating and/or for diesel engines belongs here.

GASOLINE (see NAPHTA)

LPG = LIQUID PETROLEUM GASES. The fraction containing mainly propan and butan, separated either from natural gas or coming from refining

METHANAL (see FORMALDEHYDE)

METHANOL = METHYLALCOHOL = CH_3OH

METHYLALCOHOL (see METHANOL)

METHYLBENZENE (see TOLUENE)

METHYLPHENOLES (see CRESOLE)

NAPHTA = gasoline = petrol. For our purposes, the light liquid hydrocarbon fraction, whether separated from natural gas, or product of crude refining is included in this expression

NAPHTALENE = Basic aromatic compound $C_{10}H_8$

NATURAL GAS = The gas extracted from the wells containing mainly methane.
Since in most cases other components are also present, the name sometimes used (METHAN) is improper

NON-ASSOCIATED NATURAL GAS = The natural gas coming from "dry" wells without crude oil production

OLEFINS = Organic compounds with one or more double bonds

OXOALCOHOLS = All aliphatic saturated alcohols which can be produced by oxo-synthesis

PETROL (see NAPHTA)

PHENOLE = C_6H_5OH

POLYOLS = Polyvalent alcohols

PROPANE DIOL (see PROPYLENE GLYCOLE)

PROPENE (see PROPYLENE)

PROPOX (see PROPYLENE OXIDE)

PROPYLENE = PROPENE = $CH_3-CH=CH_2$

PROPYLENE GLYCOLE = PROPANEDIOL

PROPYLENE OXIDE = PROPOX = C_3H_6O

TOLUENE = METHYLBENZENE $CH_3C_6H_5$

VAcM = VINYLACETATE MONOMER

VCM = VINYLCHLORIDE MONOMER

VINYLACETATE MONOMER = VAcM

VINYLCHLORIDE MONOMER = VCM

XYLENES = DIMETHYLBENZENES