



**REFERENCE LIST**  
MA NOIR PETROCHEM & NUCLEAR®

YEAR	COMPANY	DESIGN	LOCATION	COUNTRY	MAIN ALLOY (MANAURITE)	QTY	Unit	PRODUCTION
1965	MEKOG 1	KELLOGG		NETHERLANDS	HK 40	336		
1965	CARBOCHIMIQUE	KELLOGG		BELGIUM	HK 40	352		
1966	EDISON	KELLOGG		ITALY	HK 40	252		
1967	COURRIERES KUHLMAN	SELAS	HARNES	FRANCE	36X	5		METHANOL
1968	BP CHEMICALS	STONE & WEBSTER	GRANGEMOUTH	SCOTLAND	900			ETHYLENE
1968	ERDOL CHEMIE	LINDE GERMANY	DORMAGEN	GERMANY	900			ETHYLENE
1968	PETKIM	STONE & WEBSTER	IZMIR	TURKEY	900			ETHYLENE
1968	SHELL CHIMIE		CARRINGTON	UK	36X			ETHYLENE
1968	MEKOG 2	KELLOGG		NETHERLANDS	HK 40	294		
1969	AMMONIAC UNIE	KELLOGG	PERNIS	NETHERLANDS	36X	5		AMMONIA
1969	APC TOULOUSE	ONIA GEGI	TOULOUSE	FRANCE	900			HYDROGEN
1969	BP CHEMICALS	STONE & WEBSTER	GRANGEMOUTH	SCOTLAND	900			ETHYLENE
1969	D.S.M.	FOSTER WHEELER UK	GELEEN	NETHERLANDS	900			HYDROGEN
1969	MONTEDISON	SELAS	BRINDISI	ITALY	900			ETHYLENE
1969	PETKIM	STONE & WEBSTER	IZMIR	TURKEY	900			ETHYLENE
1969	ROW	LINDE	WESSELING	GERMANY	900			ETHYLENE
1969	S.E.I.F.	ONIA GEGI	GRANDPUITS	SCOTLAND	900			HYDROGEN
1969	SHELL CHIMIE		CARRINGTON	UK	36X			ETHYLENE
1969	STE NORMANDE DE L'AZOTE	ONIA GEGI	GONFREVILLE	FRANCE	900			ETHYLENE
1969	TNC	ONIA GEGI	NUEVITAS	CUBA	900			HYDROGEN
1969	UKW	LINDE	WESSELING	GERMANY	900			ETHYLENE
1970	BP CHEMICALS	STONE & WEBSTER	GRANGEMOUTH	SCOTLAND	900			ETHYLENE
1970	CDF CHIMIE / SCC		CARLING	FRANCE	36X			ETHYLENE
1970	COURRIERES KUHLMAN	SELAS	HARNES	FRANCE	36X	100		METHANOL
1970	DOW CHEMICAL		TERNEUZEN	NETHERLANDS	36X			ETHYLENE
1970	ELF RHONE ALPES		FEYZIN	FRANCE	36X			ETHYLENE
1970	ERDOL CHEMIE	LINDE GERMANY	DORMAGEN	GERMANY	900			ETHYLENE
1970	ESSO CHIMIE		N.D. DE GRAVENCHON	FRANCE	36X			ETHYLENE
1970	INVEST IMPORT BULGARIA	SOCALTRA	VRATZA	BULGARIA	900			HYDROGEN
1970	KUHLMAN LA MADELEINE	HUMPHREYS & GLASGOW	LA MADELEINE	FRANCE	900			HYDROGEN
1970	MEKOG	KELLOGG	IJUIDEN	NETHERLANDS	36X	8		AMMONIA
1970	METALIMPORT		PLOESTI	RUMANIA	36X			ETHYLENE
1970	MONTECATINI	SELAS	PORTO MARGHERA	ITALY	900			HYDROGEN
1970	ONIA - GEGI		SCHWARTZHEID	GERMANY	3525_5W			
1970	PETKIM	STONE & WEBSTER	IZMIR	TURKEY	900			ETHYLENE
1970	ROW		WESSELING	GERMANY	36X			ETHYLENE
1970	TERNI CHIMICA	FOSTER WHEELER IT.	NERA MONTORO	ITALY	900			HYDROGEN
1970	UKW	LINDE	WESSELING	GERMANY	900			ETHYLENE
1971	BASF		LUDWIGSHAFEN	GERMANY	36X			ETHYLENE
1971	ELF		FEYZIN	FRANCE	3525_5W			
1971	ELF RHONE ALPES		FEYZIN	FRANCE	36X			ETHYLENE
1971	ESSO CHIMIE		N.D. DE GRAVENCHON	FRANCE	36X			ETHYLENE
1971	HEMIJSKA INDUSTRIJA	FOSTER WHEELER	PANCEVO	YUGOSLAVIA	36X	170		AMMONIA
1971	INA KUTINA	FOSTER WHEELER FCE	KUTINA	YUGOSLAVIA	900			HYDROGEN
1971	LURGI METALIMP.		PITESTI	RUMANIA	36X			ETHYLENE
1971	METALIMPORT		PLOESTI	RUMANIA	36X			ETHYLENE
1971	MONTEDISON	LUMMUS	PRIOLO	ITALY	900			ETHYLENE
1971	O.M.V. AUSTRIA	LURGI	SCHWECHAT	AUSTRIA	900			ETHYLENE
1971	SELAS LINDE	LINDE	GULF OIL	NETHERLANDS	3525_5W			
1971	SHELL CHEMIE		PERNIS	NETHERLANDS	36X			ETHYLENE
1971	SNPE	FOSTER WHEELER FCE	LACQ	FRANCE	900 REF + ETHYL			
1971	UNION RHEIN BRAUNKOHLN KR.		WESSELING	GERMANY	36X			ETHYLENE
1971	USIBA			BRAZIL	HK 40	180		
1972	AMMONIAC UNIE	KELLOGG	PERNIS	NETHERLANDS	36X	336		AMMONIA
1972	AMOCO CH. CO.		CHOCOLATE BAYOU ALVIN,	USA	36X			ETHYLENE
1972	CARBOCHIMIQUE	KELLOGG	TERTRE	BELGIUM	36X	352		AMMONIA
1972	CDF CHIMIE	ONIA + LUMMUS	CARLING	FRANCE	900 REF + ETHYL			
1972	CDF CHIMIE / SCC		CARLING	FRANCE	36X			ETHYLENE
1972	DOW CHEMICAL		TERNEUZEN	NETHERLANDS	36X			ETHYLENE
1972	DUPONT DE NEMOURS	FOSTER WHEELER USA	BEAUMONT/TEXAS	USA	900			HYDROGEN
1972	ELF RHONE ALPES		FEYZIN	FRANCE	36X			ETHYLENE
1972	ERDOL CHEMIE-BAYER		DORMAGEN	GERMANY	36X			ETHYLENE
1972	ESSO CHIMIE		N.D. DE GRAVENCHON	FRANCE	36X			ETHYLENE
1972	ESSO CHIMIE		STENUNGSUND	SWEDEN	36X			ETHYLENE
1972	GULF OIL		EUROPOORT ROTTERDAM	NETHERLANDS	36X			ETHYLENE
1972	JAPAN GASOLINE	mitsui (TOPSOE)		JAPAN	900			HYDROGEN
1972	METALIMPORT		PLOESTI	RUMANIA	36X			ETHYLENE
1972	O.M.V.		SCHWECHAT	AUSTRIA	36X			ETHYLENE
1972	RIQT	RHONE POULENC	SAO FRANCISCO	BRAZIL	900			HYDROGEN
1972	SELAS LINDE	LINDE		GERMANY	2424NB	50		
1972	SHELL CHEMIE NL	STONE & WEBSTER	MOERDIJK	NETHERLANDS	900			ETHYLENE
1972	SHELL CHIMIE	SELAS	BERRE L'ETANG	FRANCE	900			ETHYLENE
1972	SHELL CHIMIE		MOERDIJK	NETHERLANDS	36X			ETHYLENE
1972	SHELL CHIMIE NL	STONE & WEBSTER	MOERDIJK	NETHERLANDS	900B			ETHYLENE
1972	SNPA		LACQ	FRANCE	3525_5W			
1972	UGINE KUHLMAN	POWER GAZ	LA MADELEINE	FRANCE	900			HYDROGEN
1972	TURNUMAGURELE			RUMANIA	HK 40	352		
1972	ARAD			RUMANIA	HK 40	352		
1973	AIR PRODUCTS			NETHERLANDS	3525_5W			



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YEAR	COMPANY	DESIGN	LOCATION	COUNTRY	MAIN ALLOY (MANAURITE)	QTY	Unit	PRODUCTION
1965	MEKOG 1	KELLOGG		NETHERLANDS	HK 40	336		
1973	ALLIED CHEM. CORP.	SELAS	HOPEWELL	USA	36X	320		AMMONIA
1973	ANIC	SELAS NL	GELA	ITALY	900			ETHYLENE
1973	BORDEN CHEMICAL	SELAS	GEISMAR LOUIS	USA	36X	16		AMMONIA
1973	CHEMIE LINZ	UHDE	LINZ	AUSTRIA	36X	278		AMMONIA
1973	D.S.M.	SELAS	GELEEN	NETHERLANDS	900			ETHYLENE
1973	DUPONT DE NEMOURS	KELLOGG	BEAUMONT TEXAS	USA	36X	342		AMMONIA
1973	ELF RHONE ALPES		FEYZIN	FRANCE	36X			ETHYLENE
1973	ENTASA	SELAS	PUERTOLLANO	SPAIN	900			ETHYLENE
1973	ESSO CHIMIE		N.D. DE GRAVENCHON	FRANCE	36X			ETHYLENE
1973	GENERAL ELECTRIC	HOWE BAKER	BERGEN OP ZOOM	NETHERLANDS	900			HYDROGEN
1973	GEWERSCHAFT VICTOR	UHDE	CASTROP RAUXEL	GERMANY	36X	250		AMMONIA
1973	HAMBURGER STAHLWERKE	KORF	HAMBURG	GERMANY	36X	100		DRI
1973	HEM. IND. PANCEVO		PANCEVO	YUGOSLAVIA	36X			ETHYLENE
1973	KEIC			KOREA	36X			ETHYLENE
1973	KEIC	SPEICHIM		KOREA	900			ETHYLENE
1973	KUTINA	FOSTER WHEELER	KUTINA	YUGOSLAVIA	900			HYDROGEN
1973	MITSUBISHI HEAVY IND.	MITSUBISHI		JAPAN	900			HYDROGEN
1973	MONTECATINI EDISON	LUMMS + KELLOGG	PRIOLO	ITALY	900 REF + ETHYL			
1973	NAPHTACHIMIE		LAVERA	FRANCE	36X			ETHYLENE
1973	O.M.V.		SCHWECHAT	AUSTRIA	36X			ETHYLENE
1973	OSW			AUSTRIA	2424NB	65		
1973	PANCEVO	FOSTER WHEELER	PANCEVO	YUGOSLAVIA	900			HYDROGEN
1973	POHANG PETR. COM.		POHANG	KOREA	36X			ETHYLENE
1973	RHONE POULENC		OTTMARSHEIM	FRANCE	3525_5W			
1973	S.B.S.	SELAS KIRCHNER MILANO	BRINDISI	ITALY	900			ETHYLENE
1973	S.C.C. / CDF CHIMIE	ONIA GEGI	CARLING	FRANCE	36X	100		AMMONIA
1973	SEIF	ONIA GEGI	NANGIS	FRANCE	36X	100		AMMONIA
1973	SELAS LINDE	LINDE	AIR PRODUCTS	NETHERLANDS	3525_5W			
1973	SIR	SELAS	PORTO TORRES	ITALY	900			ETHYLENE
1973	TECHMASHIMPORT	FOSTER WHEELER	TCHERCHKASSY	RUSSIA	900			HYDROGEN
1973	TECHNOKOMPLEX	SOCALTRA	VRATZA	BULGARIA	900			HYDROGEN
1973	TEXAS EASTMAN		LONGVIEW	USA	36X			ETHYLENE
1973	UKW			GERMANY	2424NB	152		
1973	VEBA CHEMIE AG		GELSENKIRCHEN	GERMANY	36X			ETHYLENE
1973	WINTERSHALL	SELAS	LINGEN	GERMANY	900			HYDROGEN
1973	ENCASO			SPAIN	HK 40	176		
1974	ANIC	SNAM PROGETTI	GELA+MANFREDONIA	ITALY	900			HYDROGEN
1974	ATO CHIMIE	STONE & WEBSTER	GONFREVILLE	FRANCE	900			ETHYLENE
1974	BP CHEMICALS	STONE & WEBSTER	GRANGEMOUTH	SCOTLAND	900			ETHYLENE
1974	CFR	SELAS	GONFREVILLE	FRANCE	900			ETHYLENE
1974	COMP. NEELAND. AZOTE	SELAS	SLUISKIL	NETHERLANDS	36X	140		AMMONIA
1974	COURRIERES KUHLMAN	SELAS	HARNES	FRANCE	36X	120		AMMONIA
1974	D.S.M.	KTI	GELEEN	NETHERLANDS	900			ETHYLENE
1974	DUPONT DE NEMOURS	FOSTER WHEELER	BEAUMONT	USA	36X	30		AMMONIA
1974	ELF UNION	KTI	FEYZIN	FRANCE	900			ETHYLENE
1974	ESSO CHIMIE	FOSTER WHEELER	N.D. DE GRAVENCHON	FRANCE	900			ETHYLENE
1974	GENERAL ATOMIC		SAN DIEGO	USA	900			HYDROGEN
1974	GENERAL ELECTRIC	HOWE BAKER	BERGEN OP ZOOM	NETHERLANDS	36X	16		CO
1974	GULF OIL		ROZENBURG	NETHERLANDS	36X			ETHYLENE
1974	HAMBURGER STAHLWERKE	KORF ENG.	HAMBURG	GERMANY	900 STEEL-RED			
1974	INA KUTINA	FOSTER WHEELER	KUTINA	YUGOSLAVIA	36X	120		AMMONIA
1974	INTECSA	POWER GAS	MALAGA	SPAIN	900			HYDROGEN
1974	K.T.I.		ELF UNION	FRANCE	36X			ETHYLENE
1974	K.T.I.		MONTEDISON	ITALY	36X			ETHYLENE
1974	KNAPSACK HOECHST	KTI	KNAPSACK	GERMANY	900 E.D.C			
1974	LINDE		NAPHTACHIMIE	FRANCE	36X			ETHYLENE
1974	LUMMUS /P. MARGHERA	LUMMUS	MONTEDISON	ITALY	36X			ETHYLENE
1974	MARATHON	LURGI	BURGHAUSEN	GERMANY	900			ETHYLENE
1974	mitsui		UKISHIMA	JAPAN	36X			ETHYLENE
1974	MONTEDISON	KTI	BRINDISI	ITALY	900			ETHYLENE
1974	NAPHTACHIMIE	LINDE SELAS	LAVERA	FRANCE	900			ETHYLENE
1974	NORSK HYDRO	LINDE	RAFNES	NORWAY	900			ETHYLENE
1974	PETKIM	BORN	IZMIR	TURKEY	900			ETHYLENE
1974	PETROBRAS	KELLOGG		BRAZIL	900			AMMONIA
1974	RHONE PROGIL (A.G.Q.)	HALDOR TOPSOE	GRAND QUEVILLY	FRANCE	36X	100		AMMONIA
1974	SELAS LINDE	LINDE	DOW CHEMICAL	USA	36X			ETHYLENE
1974	SHELL CHIMIE NL	STONE & WEBSTER	MOERDIJK	NETHERLANDS	900B			ETHYLENE
1974	SHELL NETHERLANDS	STONE & WEBSTER	MOERDIJK	NETHERLANDS	900			ETHYLENE
1974	STE NORMANDE DE L'AZOTE	ONIA GEGI	GONFREVILLE	FRANCE	36X	100		AMMONIA
1974	STONE & WEBSTER	STONE & WEBSTER	ATO GONFREVILLE	FRANCE	36X			ETHYLENE
1974	STONE & WEBSTER **	STONE & WEBSTER	ICI, WILTON	UK	36X			ETHYLENE
1974	SUMITOMO	mitsui		JAPAN	900			ETHYLENE
1974	UHDE	UHDE		GERMANY	2424NB	313		
1974	UKISHIMA	mitsui	UKISHIMA	JAPAN	900			ETHYLENE
1974	UNION OIL	FOSTER WHEELER	KENAI, ALASKA	USA	900			HYDROGEN
1974	PETROBRAS			BRAZIL	HK 40	396		
1974	ARZEW			ALGERIA	HK 40	378		
1974	GORLOVKA			RUSSIA	HK 40	1008		



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YEAR	COMPANY	DESIGN	LOCATION	COUNTRY	MAIN ALLOY (MANAURITE)	QTY	Unit	PRODUCTION
1965	MEKOG 1		KELLOGG	NETHERLANDS	HK 40	336		
1974	ODESSA			UKRAINE	HK 40	1008		
1974	PEMEX			MEXICO	HK 40	2016		
1974	FIRST MISSISSIPI			USA	HK 40	420		
1974	AGRICO 1			USA	HK 40	416		
1974	AGRICO 2			USA	HK 40	416		
1974	PUSRI III			INDONESIA	HK 40	378		
1974	DUPONT			USA	36X	341		
1974	CHEMIE LINZ			AUSTRIA	2424NB	65		
1975	APC TOULOUSE	ONIA	TOULOUSE	FRANCE	900			HYDROGEN
1975	ATO CHIMIE	STONE & WEBSTER	GONFREVILLE	FRANCE	900			ETHYLENE
1975	CDF CHIMIE	ONIA + LUMMUS	CARLING	FRANCE	900 REF + ETHYL			
1975	CDF CHIMIE	ONIA + LUMMUS		FRANCE	900 REF + ETHYL			
1975	D.S.M.	FOSTER WHEELER	GELEEN	NETHERLANDS	900 REF + ETHYL			
1975	DOW CHEMICAL	LUMMUS	PLAQUEMINE	USA	900			ETHYLENE
1975	DUPONT DE NEMOURS	FOSTER WHEELER	BEAUMONT	USA	36X	642		AMMONIA
1975	ELF FRANCE	KTI	FEYZIN	FRANCE	900			ETHYLENE
1975	ENPETROL	KTI		SPAIN	900			ETHYLENE
1975	ESSO	EXXON	STENUNGSUND	SWEDEN	900B			ETHYLENE
1975	ESSO CHIMIE		N.D. DE GRAVENCHON	FRANCE	36X			ETHYLENE
1975	ESSO CHIMIE		N.D. DE GRAVENCHON	FRANCE	36X			ETHYLENE
1975	ESSO CHIMIE	EXXON	STENUNGSUND	SWEDEN	900			ETHYLENE
1975	ESSO CHIMIE	EXXON	N.D. DE GRAVENCHON	FRANCE	900			ETHYLENE
1975	FOSTER WHEELER	FOSTER WHEELER			3525_5W			
1975	FOSTER WHEELER	FOSTER WHEELER	TECHNIP	CHINA	36X			ETHYLENE
1975	GENERAL ATOMIC		SAN DIEGO / CALIFORNIA	USA	36X			ETHYLENE
1975	HEURTEY		UNKNOWN		3525_5W			
1975	HIP PANCEVO	HEUTEY PETROCHEM	PANCEVO	YUGOSLAVIA	900			ETHYLENE
1975	I.C.I.	STONE & WEBSTER	WILTON	UK	900B			ETHYLENE
1975	ICI	STONE & WEBSTER	WILTON	UK	900			ETHYLENE
1975	LURGI	LURGI	MARATHON	GERMANY	36X			ETHYLENE
1975	mitsui		CHYODA MARUTZEN	JAPAN	36X			ETHYLENE
1975	mitsui			CHINA	36X			ETHYLENE
1975	MONTEDISON	KTI	PRIOLO	ITALY	900			ETHYLENE
1975	MONTEDISON	LUMMUS	PORTO MARGHERA	ITALY	900			ETHYLENE
1975	MONTEDISON	LUMMUS + KELLOGG	PRIOLO	ITALY	900 REF + ETHYL			
1975	NAPHTACHIMIE	SELAS	LAVERA	FRANCE	900			ETHYLENE
1975	ROMCHIM		PITESTI	RUMANIA	36X			ETHYLENE
1975	S.E.I.F.	ONIA	GRANDPUITS	FRANCE	900			HYDROGEN
1975	SHELL	STONE & WEBSTER	PERNIS	NETHERLANDS	900			ETHYLENE
1975	STE NORMANDE DE L'AZOTE	ONIA	GONFREVILLE	FRANCE	900			ETHYLENE
1975	STONE & WEBSTER	STONE & WEBSTER	SHELL PERNIS	NETHERLANDS	36X			ETHYLENE
1975	UKF FERTILIZER	HALDOR TOPSOE	CHESTER	UK	36X	10		AMMONIA
1975	UNION CARBIDE		CHARLESTON	USA	36X			ETHYLENE
1975	UNION OIL	FOSTER WHEELER	KENAI	ALASKA	36X	364		AMMONIA
1975	PUSRI IV			INDONESIA	HK 40	378		
1975	ANNABA			ALGERIA	HK 40	378		
1975	NAMHAE CHEM. YOSU			KOREA	HK 40	320		
1975	MONTEDISON			ITALY	36X	252		
1975	IGSAS			TURKEY	HK 40	318		
1976	ATO CHIMIE		GONFREVILLE	FRANCE	36X			ETHYLENE
1976	DUPONT		DOW / TEXAS	USA	36X			ETHYLENE
1976	ELF UNION		FEYZIN	FRANCE	36X			ETHYLENE
1976	EMPRESA NAT. DEL PETROL.	LUMMUS		CHILE	900			ETHYLENE
1976	ENFERSA	UHDE	CARTAGENA	SPAIN	36X	240		AMMONIA
1976	ESSO CHIMIE		N.D. DE GRAVENCHON	FRANCE	36X			ETHYLENE
1976	ESSO CHIMIE		N.D. DE GRAVENCHON	FRANCE	36X			ETHYLENE
1976	ESSO CHIMIE	EXXON	N.D. DE GRAVENCHON	FRANCE	900			ETHYLENE
1976	ESSO STANDARD		N.D. DE GRAVENCHON	FRANCE	36X			ETHYLENE
1976	ESSO STANDARD		N.D. DE GRAVENCHON	FRANCE	36X			ETHYLENE
1976	ESSO STANDARD		N.D. DE GRAVENCHON	FRANCE	36X			ETHYLENE
1976	FERTILIZER SYRIA	CREUSOT LOIRE	HOMS	SYRIA	900			HYDROGEN
1976	FRANCE		UNKNOWN		3525_5W			
1976	INA KUTINA	FOSTER WHEELER	KUTINA	YUGOSLAVIA	36X	120		AMMONIA
1976	INVEST EXPORT	SELAS	SCHWEDT	GERMANY	36X	100		AMMONIA
1976	K.T.I.		ENTASA	SPAIN	36X			ETHYLENE
1976	K.T.I.		ELF FEYZIN	FRANCE	36X			ETHYLENE
1976	K.T.I. FRANCE		UNKNOWN		3525_5W			
1976	LITWIN	HEURTEY		AFGHANISTAN	900			HYDROGEN
1976	LUMMUS	LUMMUS	DUNKIRK	FRANCE	36X			ETHYLENE
1976	LUMMUS (**)	LUMMUS	CDF-CHIMIE	FRANCE	3525_5W			ETHYLENE
1976	M C N / D.S.M.	FOSTER WHEELER	DELFLZJL	NETHERLANDS	36X	584		METHANOL
1976	MONTECATINI	KELLOGG	PRIOLO	ITALY	36X	252		AMMONIA
1976	NAPHTACHIMIE		LAVERA	FRANCE	36X			ETHYLENE
1976	PIERREFITTE-AUBY			FRANCE	900			HYDROGEN
1976	POLIMEX CEKOP	HALDOR TOPSOE	WLOCLAWEK	POLAND	36X	210		AMMONIA
1976	R.I.Q.T.		SAO PAULO	BRAZIL	3525_5W			
1976	RHONE POULENC	FOSTER WHEELER	CHALAMPE	FRANCE	36X	70		AMMONIA
1976	SEIF	ONIA GEGI	GRANDPUITS	FRANCE	36X	150		AMMONIA



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1965	MEKOG 1	KELLOGG		NETHERLANDS	HK 40	336		
1976	SELAS LINDE	LINDE	DOW PLAQUEMINE	USA	36X			ETHYLENE
1976	STEC	KTI	STEC	ARGENTINA	36X	15		
1976	UKF	KELLOGG	IJMUIDEN	NETHERLANDS	36X	296		AMMONIA
1976	KUJANG			INDONESIA	HK 40	378		
1976	HOMS			SYRIA	HK 40	322		
1976	SRI LANKA / SFMC			CEYLON	HK 40	208		
1976	ABU-QIR		ALEXANDRIA	EGYPT	2424NB	313		
1977	AMMONIAC GD QUEVILLY	HEURTEY - ONIA	GRAND QUEVILLY	FRANCE	900			HYDROGEN
1977	AZOTE & PRODUITS CHIM.	ONIA GEGI	TOULOUSE	FRANCE	36X	300		AMMONIA
1977	CDF CHIMIE	ONIA + LUMMUS	CARLING	FRANCE	900 REF + ETHYL			
1977	CHEMOKOMPLEX	KTI	LENINVAROS	HUNGARY	900			ETHYLENE
1977	CORPUS CHRISTI	STONE & WEBSTER		USA	900			ETHYLENE
1977	ESSO	EXXON	BAYTOWN	USA	900			ETHYLENE
1977	ESSO	EXXON	STENUNGSUND	SWEDEN	900			ETHYLENE
1977	ESSO	EXXON	BAYTOWN	USA	900B			ETHYLENE
1977	ESSO	EXXON	STENUNGSUND	SWEDEN	900B			ETHYLENE
1977	ESSO	EXXON	THESSALONIKI	GREECE	900			ETHYLENE
1977	ESSO STANDARD		N.D. DE GRAVENCHON	FRANCE	36X			ETHYLENE
1977	EXXON	OWN	BATON ROUGE	USA	900			ETHYLENE
1977	EXXON	OWN	BATON ROUGE	USA	900B			ETHYLENE
1977	GAS MADRID	LURGI	MADRID	SPAIN	900			HYDROGEN
1977	INA / CLAUDIUS PETERS	LURGI		YUGOSLAVIA	36X	180		METHANOL
1977	INA KUTINA	CLAUDIUS PETERS	KUTINA	YUGOSLAVIA	900			HYDROGEN
1977	INVEST EXPORT		BOEHLEN	GERMANY	36X			ETHYLENE
1977	INVEST EXPORT	KTI	BOEHLEN	GERMANY	900			ETHYLENE
1977	INVEST EXPORT	KTI	BOEHLEN	GERMANY	900			ETHYLENE
1977	LUMMUS	LUMMUS	GULF EUROPORT	NETHERLANDS	36X			ETHYLENE
1977	MARATHON	KTI	BURGHAUSEN	GERMANY	900			ETHYLENE
1977	MONTEDISON	LUMMUS	PORTO MARGHERA	ITALY	900			ETHYLENE
1977	MONTEDISON	KIRCHNER - LUMMUS	PORTO MARGHERA	ITALY	900			ETHYLENE
1977	O.M.V.	KTI - LURGI	SCHWECHAT	AUSTRIA	900			ETHYLENE
1977	PEROXID CHIMIE	KIRCHNER	MÜNCHEN	GERMANY	36X	6		TG
1977	RHONE POULENC	ONIA GEGI	SAO PAULO	BRAZIL	36X	1		AMMONIA
1977	RHONE POULENC	HALDOR TOPSOE	GRAND QUEVILLY	FRANCE	36X	300		AMMONIA
1977	RHONE POULENC	HALDOR TOPSOE		BRAZIL	900			HYDROGEN
1977	STANDARD OIL	SELAS	EL SEGUNDO	USA	36X	42		AMMONIA
1977	STE CH. GDE PAROISSE	BABCOCK		FRANCE	900			HYDROGEN
1977	UNION OIL	FOSTER WHEELER		CANADA	900			HYDROGEN
1977	PEMEX			MEXICO	HK 40	1008		
1978	ATO CHIMIE	STONE & WEBSTER	GONVREVILLE	FRANCE	900			ETHYLENE
1978	BASF	LUMMUS	LUDWIGSHAFEN	GERMANY	900			ETHYLENE
1978	BAYER	SELAS KIRCHNER	ANTWERP	BELGIUM	900			HYDROGEN
1978	BP CHEMICALS	STONE & WEBSTER	GRANGEMOUTH	SCOTLAND	900			ETHYLENE
1978	CARBOCHIMIQUE	KELLOGG	TERTRE	BELGIUM	36X	20		AMMONIA
1978	CDF CHIMIE	ONIA + LUMMUS	CARLING	FRANCE	900 REF + ETHYL			
1978	CDF/COPENOR		DUNKIRK	FRANCE	36X			ETHYLENE
1978	CHEMOKOMPLEX	KTI	LENINVAROS	HUNGARY	900			ETHYLENE
1978	CORPUS CHRISTI	STONE & WEBSTER	RHODAFIN		900B			ETHYLENE
1978	CREUSOT LOIRE FRANCE		INA	YUGOSLAVIA	35K			
1978	D.S.M.	FOSTER WHEEL. + SELAS	GELEEN	NETHERLANDS	900 REF + ETHYL			
1978	ELF FRANCE	LUMMUS + KTI	FEYZIN	FRANCE	900			ETHYLENE
1978	ESSO	BIRWELCO-EXXON	COLOGNE	GERMANY	900			ETHYLENE
1978	ESSO	EXXON	STENUNGSUND	SWEDEN	900			ETHYLENE
1978	ESSO	POWER GAS	PORT DICKSON	MALAYSIA	36X	40		AMMONIA
1978	ESSO	FOSTER WHEELER	ROZENBURG	NETHERLANDS	36X	67		AMMONIA
1978	ESSO	EXXON	STENUNGSUND	SWEDEN	900B			ETHYLENE
1978	FIST MISSISSIPI CHEM.	FOSTER WHEELER	MISSISSIPI	USA	900			HYDROGEN
1978	GENERAL ELECTRIC	HOWE BAKER	BERGEN OP ZOOM	NETHERLANDS	36X	5		AMMONIA
1978	GENERAL ELECTRIC	HOWE BAKER	BERGEN OP ZOOM	NETHERLANDS	900			HYDROGEN
1978	HIP PANCEVO	FOSTER WHEELER	PANCEVO	YUGOSLAVIA	900			HYDROGEN
1978	KELLOGG UK		SRI LANKA	CEYLAN	35K			
1978	LUMMUS	LUMMUS	SHELL BERRE	FRANCE	36X			ETHYLENE
1978	MAQUIMPORT	ONIA	NUEVITAS	CUBA	900			HYDROGEN
1978	MONTEDISON		PORTO MARGHERA	ITALY	36X			ETHYLENE
1978	MONTEDISON	KTI	BRINDISI	ITALY	900			ETHYLENE
1978	NAPHTACHIMIE		LAVERA	FRANCE	36X			ETHYLENE
1978	NAPHTACHIMIE	SELAS KIRCHNER	LAVERA	FRANCE	900			ETHYLENE
1978	NESTE OY			FINLAND	36X			ETHYLENE
1978	NESTE OY		PORVOO	FINLAND	36X			ETHYLENE
1978	OLIN	FOSTER WHEELER		USA	36X	42		AMMONIA
1978	RHONE POULENC	HALDOR TOPSOE	GRAND QUEVILLY	FRANCE	36X	440		AMMONIA
1978	SHELL AUBETTE	LUMMUS	AUBETTE	FRANCE	900			ETHYLENE
1978	SHELL NETHERLANDS	STONE & WEBSTER	MOERDIJK	NETHERLANDS	900B			ETHYLENE
1978	SHELL NL.	STONE & WEBSTER	MOERDIJK	NETHERLANDS	900			ETHYLENE
1978	STE NORMANDE DE L'AZOTE	ONIA	GONFREVILLE	FRANCE	900			ETHYLENE
1978	STONE & WEBSTER		ICI / CORPUS CHRISTI	USA	36X			ETHYLENE
1978	STONE & WEBSTER			LIBYA	36X			ETHYLENE
1978	STONE & WEBSTER		PETKIM	TURKEY	36X			ETHYLENE



**REFERENCE LIST**  
MA NOIR PETROCHEM & NUCLEAR®

YEAR	COMPANY	DESIGN	LOCATION	COUNTRY	MAIN ALLOY (MANAURITE)	QTY	Unit	PRODUCTION
1965	MEKOG 1		KELLOGG	NETHERLANDS	HK 40	336		
1978	SUMITOMO			JAPAN	36X			ETHYLENE
1978	TASMAN		ICI	AUSTRALIA	36X			ETHYLENE
1978	KUTINA			YUGOSLAVIA	HK 40	520		
1978	PETROBRAS			BRAZIL	HK 40	364		
1978	PETROQUIMICA			SPAIN	HK 40	80		
1979	ANIC		GELA	ITALY	36X			ETHYLENE
1979	ATO CHIMIE			FRANCE	36X			ETHYLENE
1979	BASF	KTI	TARRAGONA	SPAIN	900			HYDROGEN
1979	BORSIG FOR ANIC	FOSTER WHEELER	GELA	ITALY	900			ETHYLENE
1979	BP CHEMICALS	STONE & WEBSTER	GRANGEMOUTH	SCOTLAND	900			ETHYLENE
1979	CDF CHIMIE	ONIA + LUMMUS	ST AVOLD CARLING	FRANCE	900 REF + ETHYL			
1979	CDF CHIMIE COPENOR	LUMMUS	DUNKIRK	FRANCE	900			ETHYLENE
1979	CHEMOKOMPLEX	HALDOR TOPSOE		HUNGARY	36X	160		AMMONIA
1979	CHEMOKOMPLEX			HUNGARY	35K			
1979	CHEMPLEX			USA	XA			
1979	CHEMPLEX			USA	XA			
1979	COPENE	LUMMUS FCE		BRAZIL	900			ETHYLENE
1979	D.S.M.	FOSTER WHEELER	GELEEN	NETHERLANDS	36X	125		AMMONIA
1979	DUPONT	SELAS	SABINE WORKS	USA	36X	60		HYDROGEN
1979	ELF		FEYZIN	FRANCE	36X			ETHYLENE
1979	ELF FRANCE	LUMMUS + KTI	FEYZIN	FRANCE	900			ETHYLENE
1979	ELF FRANCE		FEYZIN	FRANCE	XA			
1979	ESSO CHIMIE		N.D. DE GRAVENCHON	FRANCE	36X			ETHYLENE
1979	EXXON	OWN	BATON ROUGE	USA	36X			ETHYLENE
1979	EXXON	OWN	BATON ROUGE	USA	36X			ETHYLENE
1979	EXXON	OWN	BATON ROUGE	USA	900			ETHYLENE
1979	EXXON	OWN	BATON ROUGE	USA	900B			ETHYLENE
1979	GULF OIL			NETHERLANDS	XA			
1979	HERCOFINA	SELAS	PLAQUEMINE	USA	36X	25		AMMONIA
1979	HEURTEY PETROCHEM			POLAND	2424NB	400		
1979	HRC			USA	XA			
1979	K.T.I.	GIRDLER	MONSANTO	USA	36X	58		AMMONIA
1979	KYOWA GAS	mitsui	TOKYO	JAPAN	36X	4		TG
1979	LURGI	LURGI	EMDEN / KORF	GERMANY	36X	576		DRI
1979	LURGI	LURGI		NIGERIA	36X	360		DRI
1979	LURGI	LURGI	OSKOL	USSR	36X	576		DRI
1979	LVM	STRUTHERS WELLS	TESSENDERLO	BELGIUM	900 E.D.C			
1979	MARATHON			GERMANY	36X			ETHYLENE
1979	MONSANTO			USA	XA			
1979	MONTEDISON		PORTO MARGHERA	ITALY	36X			ETHYLENE
1979	MONTEDISON	LUMMUS + KTI	PRIOLO	ITALY	900			ETHYLENE
1979	NAPHTACHIMIE	SELAS KIRCHNER	LAVERA	FRANCE	900			ETHYLENE
1979	NESTE OY		PORVOO	FINLAND	36X			ETHYLENE
1979	NESTE OY	LUMMUS NL.	PORVOO	FINLAND	900			ETHYLENE
1979	NESTE OY	LUMMUS	PORVOO	FINLAND	900			ETHYLENE
1979	NORSK HYDRO	HUMPHREYS & GLASGOW	RAFNES	NORWAY	36X	65		AMMONIA
1979	NORTHERM			USA	XA			
1979	NORTHERN			USA	36X			ETHYLENE
1979	PETKIM	STONE & WEBSTER	IZMIR	TURKEY	900			ETHYLENE
1979	PETROSAR		SARNIA	CANADA	36X			ETHYLENE
1979	POLIMEX	HEURTEY/HALDOR TOPS.		POLAND	900			HYDROGEN
1979	S.E.I.F.	ONIA	GRANDPUITS	FRANCE	900			HYDROGEN
1979	SHELL NETHERLANDS	STONE & WEBSTER	MOERDIJK	NETHERLANDS	900B			ETHYLENE
1979	SHELL NL	STONE & WEBSTER	MOERDIJK	NETHERLANDS	900			ETHYLENE
1979	SNAM PROGETTI			LIBYA	2424NB	2		
1979	STONE & WEBSTER		JGC / TACHING	CHINA	36X			ETHYLENE
1979	STONE & WEBSTER / ATO		GONFREVILLE	FRANCE	XA			
1979	STONE & WEBSTER / MOBIL			USA	XA			
1979	TERNI	FOSTER WHEELER	NERA MONTORO	ITALY	36X	60		AMMONIA
1979	TEXAS EASTMAN			USA	XA			
1979	UNION OIL	FOSTER WHEELER	KENAI	ALASKA	36X	40		AMMONIA
1979	WELDERS	LURGI		ROMANIA	900			HYDROGEN
1979	PETROQUIMICA			SPAIN	HK 40	120		
1980	ATO CHIMIE		GONFREVILLE	FRANCE	36X			ETHYLENE
1980	CDF CHIMIE		CARLING	FRANCE	XA			
1980	CREUSOT LOIRE FRANCE		INA	YUGOSLAVIA	35K			
1980	D.S.M.	KTI	GELEEN	NETHERLANDS	900			ETHYLENE
1980	DOW CHEMICAL	SELAS	LOUISIANA	USA	900			ETHYLENE
1980	DOW CHEMICAL	DOW	PLAQUEMINE	USA	900B			ETHYLENE
1980	ESSO		STENUNGSUND	SWEDEN	36X			ETHYLENE
1980	ESSO			GERMANY	36X			ETHYLENE
1980	ESSO	ESSO	COLOGNE	GERMANY	900B			ETHYLENE
1980	ESSO	FOSTER WHEELER	ALTONA	AUSTRALIA	900B			ETHYLENE
1980	ESSO / ALTONA	FOSTER WHEELER	ALTONA	AUSTRALIA	900			ETHYLENE
1980	ESSO GREECE	SELAS	THESSALONIKI	GREECE	36X	20		AMMONIA
1980	FAR ITALY	FOSTER WHEELER	SILLAGO	ITALY	36X	60		METHANOL
1980	JGC		PCS	SINGAPORE	36X			ETHYLENE
1980	JGC	STONE & WEBSTER		SINGAPORE	900			ETHYLENE



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**MA NOIR PETROCHEM & NUCLEAR®**

YEAR	COMPANY	DESIGN	LOCATION	COUNTRY	MAIN ALLOY (MANAUROITE)	QTY	Unit	PRODUCTION
1965	MEKOG 1	KELLOGG		NETHERLANDS	HK 40	336		
1980	JGC / CNTIC	STONE & WEBSTER		CHINA	900			ETHYLENE
1980	MONTEDISON			ITALY	36X			ETHYLENE
1980	MONTEDISON	KTI		ITALY	900			ETHYLENE
1980	NORSK HYDRO			NORWAY	36X			ETHYLENE
1980	PETKIM	STONE & WEBSTER		TURKEY	900			ETHYLENE
1980	PETROSAR		SARNIA	CANADA	36X			ETHYLENE
1980	PETROSAR			CANADA	XA			
1980	S.I.R.	KTI	ABIDJAN	IVORY COST	900			HYDROGEN
1980	STONE & WEBSTER		PETKIM	TURKEY	36X			ETHYLENE
1980	STONE & WEBSTER		ATO GONFREVILLE	FRANCE	36X			ETHYLENE
1980	STONE & WEBSTER		ICI / CORPUS CHRISTI	USA	36X			ETHYLENE
1980	T. E. C.	TOYO ENGINEERING		JAPAN	900B			ETHYLENE
1980	TECHMASHIMPORT	FOSTER WHEELER	TCHERKASSY	USSR	36X	1000		AMMONIA
1980	TECHMASHIMPORT	FOSTER WHEELER		RUSSIA	900			HYDROGEN
1980	TECHNIP	FOSTER WHEELER	ARZEW	ALGERIA	36X	208	Catalyst tubes	AMMONIA
1980	TERNICHIMICA	FOSTER WHEELER	NERA MONTORO	ITALY	36X	30		AMMONIA
1980	TERNICHIMICA	FOSTER WHEELER		ITALY	900			HYDROGEN
1980	UGINE KUHLMAN	DAVY POWER GAS	VILLERS ST PAUL	FRANCE	36X	282		METHANOL
1980	AL JUBAIL		AL JUBAIL	SAUDI ARABIA	HK 40	416		
1981	ALBERTA GAS		ALBERTA	CANADA	36X			ETHYLENE
1981	C.I.L.	KELLOGG	LAMBTON WORKS	CANADA	36X	367		AMMONIA
1981	C.N.A./ N.S.M.	FOSTER WHEELER	SLUISKIL	NETHERLANDS	36X	20		AMMONIA
1981	CLAUDIUS PETERS USA	FLUOR	UNION OIL	USA	900			HYDROGEN
1981	DOW PLAQUEMINE		PLAQUEMINE	USA				ETHYLENE
1981	DUPONT	KELLOGG	BEAUMONT	USA	36X	24		AMMONIA
1981	DUPONT DE NEMOURS		BEAUMONT	USA	900			HYDROGEN
1981	ESSO CHIMIE		N.D. DE GRAVENCHON	FRANCE	XA			
1981	ESSO KÖLN		KÖLN	GERMANY	XA			
1981	ESSO SWEDEN	EXXON	STENUNGSUND	SWEDEN	900			ETHYLENE
1981	EXXON	BIRWELCO	BAYTOWN	USA	900B			ETHYLENE
1981	EXXON	OWN	BATON ROUGE	USA	900B			ETHYLENE
1981	FLUOR / UNION OIL	FOSTER WHEELER		ALASKA	900			HYDROGEN
1981	FOSTER WHEELER	FOSTER WHEELER	CHEVRON	USA	36X	418		AMMONIA
1981	HERCOFINA	SELAS	PLAQUEMINE	USA	36X	335		AMMONIA
1981	HOECHST		GENDORF	GERMANY	900			ETHYLENE
1981	I.P.S. / T.E.C.	TOYO ENG. COMP.		TRINIDAD	900			HYDROGEN
1981	KELLOGG USA		AL JUBAIL	SAUDI ARABIA	35K			
1981	KELLOGG USA		PEMEX	MEXICO	35K			
1981	KELLOGG USA		SRI LANKA	CEYLAN	35K			
1981	KYOWA GAS	MITSUI	TOKYO	JAPAN	36X	8		TG
1981	LUMMUS	LUMMUS	TEXAS EASTMAN	USA	36X			ETHYLENE
1981	LUMMUS	LUMMUS	BASRAH	IRAK	900			ETHYLENE
1981	MAQUIMPOR	ONIA GEGI	NUEVITAS	CUBA	36X	54		AMMONIA
1981	METHANOLACQ	ONIA GEGI	PARDIES	FRANCE	36X	54		AMMONIA
1981	O.M.V.	KTI	SCHWECHAT	AUSTRIA	900			ETHYLENE
1981	PANCEVO	FOSTER WHEELER	PANCEVO	YUGOSLAVIA	36X	20		AMMONIA
1981	SHELL	HRC	CALIFORNIA	USA	900			HYDROGEN
1981	SNAM PROGETTI			LIBYA	2424NB	30		
1981	STE NORMANDE DE L'AZOTE	ONIA GEGI	GONFREVILLE	FRANCE	36X	90		AMMONIA
1981	TECNIMONT		PRIOLO	ITALY	36X			ETHYLENE
1981	TECNIMONT			ITALY	XA			
1981	TEXAS EASTMAN KODAK	LUMMUS	TEXAS	USA	900			ETHYLENE
1981	PEMEX			MEXICO	HK 40	1008		
1981	TRINIDAD EL TOBAGO				36X	400		
1981	SABER			USA	36X	260		
1982	ABU-QIR	UHDE	ALEXANDRIA	EGYPT	36X	50		AMMONIA
1982	ABU-QIR		ALEXANDRIA	EGYPT	2424NB	25		
1982	ALBERTA GAS		ALBERTA	CANADA	36X			ETHYLENE
1982	APC TOULOUSE	ONIA GEGI	TOULOUSE	FRANCE	900			HYDROGEN
1982	ASED	HALDOR TOPSOE	MARLY	BELGIUM	36X	10		AMMONIA
1982	ATO CHIMIE		GONFREVILLE	FRANCE	36X			ETHYLENE
1982	BASF		LUDWIGSHAFEN	GERMANY	XA			
1982	BP LAVERA	FOSTER WHEELER	LAVERA	FRANCE	900			HYDROGEN
1982	C.I.L.	UHDE	ONTARIO	CANADA	36X	176		AMMONIA
1982	CDF CHIMIE	ONIA GEGI	CARLING	FRANCE	36X	60		AMMONIA
1982	CHEMIE LINZ			AUSTRIA	2424NB	65		
1982	CHEVRON	FOSTER WHEELER	EL SEGUNDO	USA	36X	256		AMMONIA
1982	CHEVRON	SELAS	EL SEGUNDO	USA	36X	256		AMMONIA
1982	CLAUDIUS PETERS	LURGI	PERTAMINA	INDONESIA	36X	396		AMMONIA
1982	CLAUDIUS PETERS	LURGI	PERTAMINA	INDONESIA	900			HYDROGEN
1982	CREUSOT LOIRE ENT.	CREUSOT LOIRE	WLOCLAWEK	POLAND	900			HYDROGEN
1982	CREUSTO-LOIRE			POLAND	2424NB	210		
1982	DOW CHEMICAL		PLAQUEMINE	USA	36X			ETHYLENE
1982	DUPONT		SABINE RIVER	USA	36X			ETHYLENE
1982	ECIMACT	ONIA GEGI	NUEVITAS	CUBA	36X	68		AMMONIA
1982	ESSO	ESSO	N.D. DE GRAVENCHON	FRANCE	900			ETHYLENE
1982	ESSO CHIMIE	ESSO	N.D. DE GRAVENCHON	FRANCE	900			HYDROGEN
1982	EXXON	BIRWELCO	SARNIA	CANADA	900B			ETHYLENE



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YEAR	COMPANY	DESIGN	LOCATION	COUNTRY	MAIN ALLOY (MANAURITE)	QTY	Unit	PRODUCTION
1965	MEKOG 1	KELLOGG		NETHERLANDS	HK 40	336		
1982	EXXON	OWN	FLORHAM PARK	USA	900B			ETHYLENE
1982	EXXON	BIRWELCO	FIFE	UK	900B			ETHYLENE
1982	FOSTER WHEELER		DOW PLAQUEMINE	USA	36X			ETHYLENE
1982	GAS MADRID	KTI	MADRID	SPAIN	900			HYDROGEN
1982	I.P.S.	TEC	TRINIDAD EL TOBAGO	TRINIDAD	36X	404		METHANOL
1982	IMPERIAL OIL CANADA	EXXON	SARNIA	CANADA	900B			ETHYLENE
1982	INA KUTINA	FOSTER WHEELER	KUTINA	YUGOSLAVIA	900			HYDROGEN
1982	K.T.I.	KTI		BULGARIA	36X	120		ETHYLENE
1982	K.T.I.	KTI		BULGARIA	900			ETHYLENE
1982	KELLOGG		DSM/GELEEN	NETHERLANDS	35K			
1982	KELLOGG / UCAM	KELLOGG	GELEEN	NETHERLANDS	900			AMMONIA
1982	KELLOGG USA		KUJANG	INDONESIA	35K			
1982	LINDE	LINDE		CUBA	900			HYDROGEN
1982	LUMMUS	LUMMUS	TEXAS EASTMAN	USA	36X			ETHYLENE
1982	MONSANTO	KTI	PENSACOLA	USA	36X	6		
1982	N.S.M.	FOSTER WHEELER	SLUISKIL	NETHERLANDS	36X	200		AMMONIA
1982	N.S.M.	FOSTER WHEELER	SLUISKIL	NETHERLANDS	900			HYDROGEN
1982	NAPETCO	UHDE	MARSA EL BRAGA	LIBYA	36X	300		AMMONIA
1982	NEST OY		PORVOO	FINLAND	36X			ETHYLENE
1982	NESTE OY	LUMMUS	PORVOO	FINLAND	900			ETHYLENE
1982	NORSK HYDRO	HUMPHREYS & GLASGOW	PORSGRUUN	NORWAY	36X	60		AMMONIA
1982	P.C.U.K.	DAVY POWER GAS	WILLERS ST PAUL	FRANCE	900			HYDROGEN
1982	PANCEVO	FOSTER WHEELER	PANCEVO	YUGOSLAVIA	36X	130		AMMONIA
1982	POLIMEX	HALDOR TOPSOE	WLOCLAWEK	POLAND	36X	210		AMMONIA
1982	RHONE POULENC CHIMIE		LES ROCHES DE CONDRIEU	FRANCE	XA			
1982	SABER	KELLOGG	CORPUS CHRISTI	USA	36X	260		AMMONIA
1982	SEIF	ONIA GEGI	GRANDPUITS	FRANCE	36X	50		AMMONIA
1982	SEIF	ONIA GEGI	GRANDPUITS	FRANCE	36X	50		AMMONIA
1982	TECNIMONT		PRIOLO MELILLI	ITALY	XA			
1982	TERNICHIMICA		NERA MONTORO	ITALY	900			HYDROGEN
1982	TEXACO		PORT ARTHUR	USA	36X			ETHYLENE
1982	TEXACO		PORT ARTHUR	USA	35K			
1982	TROUVAY CAUVIN	STONE & WEBSTER	PANCEVO	YUGOSLAVIA	900			HYDROGEN
1982	UCAM / D S M	KELLOGG	GELEEN	NETHERLANDS	36X	364		AMMONIA
1983	ABU-QIR	UHDE	ALEXANDRIA	EGYPT	36X	100		AMMONIA
1983	ALBERTA GAS		ALBERTA	CANADA	36X	10		ETHYLENE
1983	ALBERTA GAS		ALBERTA	CANADA	36X			ETHYLENE
1983	ALLIED	LUMMUS	GEISMAR	USA	36X			ETHYLENE
1983	ALLIED	LUMMUS	GEISMAR	USA	XM			ETHYLENE
1983	ALLIED		GEISMAR	USA	XA			
1983	ATOICHEM		GONFREVILLE	FRANCE	XA			
1983	CHIYODA JAPAN			MALAYSIA	XTM			AMMONIA
1983	DOW CHEMICAL		FREEPORT	USA	36X			ETHYLENE
1983	DOW CHEMICAL		TERNEUZEN	NETHERLANDS	XA			ETHYLENE
1983	DOW CHEMICAL		TERNEUZEN	NETHERLANDS	XA			ETHYLENE
1983	DOW CHEMICAL		FREEPORT	USA	XA			ETHYLENE
1983	DUPONT	FOSTER WHEELER	BEAUMONT	USA	36X	60		AMMONIA
1983	DUPONT DE NEMOURS	FOSTER WHEELER	BEAUMONT	USA	900			HYDROGEN
1983	ENICHEM		GELA	ITALY	36X			
1983	ESSO CHIMIE		N.D. DE GRAVENCHON	FRANCE	36X			ETHYLENE
1983	ESSO CHIMIE		N.D. DE GRAVENCHON	FRANCE	XA			
1983	ESSO SWEDEN		STENUNGSUND	SWEDEN	XA			
1983	ESSO SWEDEN		STENUNGSUND	SWEDEN	XA			
1983	FOSTER WHEELER	FOSTER WHEELER	UNION OIL	USA	36X	66		AMMONIA
1983	HEURTEY	HEURTEY		TAIWAN	900			HYDROGEN
1983	HEURTEY PETROCHEM			TAIWAN	2424NB	36		
1983	K.T.I.	KTI	LACQ	FRANCE	900			ETHYLENE
1983	K.T.I. FRANCE	KTI	SNPA - LACQ	FRANCE	36X	24		HYDROGEN
1983	K.T.I. ITALY	UHDE	BAHREIN	BAHREIN	36X	244		AMMONIA
1983	KIRCHNER		PORTO MARGHERA	ITALY	XA			
1983	MARATHON	LURGI	BURGHAUSEN	GERMANY	XM			ETHYLENE
1983	MITSUI / K.H.I.			NIGERIA	35K			
1983	MOBIL OIL		N. D. DE GRAVENCHON	FRANCE	XTM			HYDROGEN
1983	MONSANTO	KELLOGG		USA	36X	425		AMMONIA
1983	MONTEDISON	LUMMUS	PORTO MARGHERA	ITALY	XM			ETHYLENE
1983	PCUK		SAO PAULO	BRAZIL	36X	20		AMMONIA
1983	POLIMEX		GRISYBOW	POLAND	XA			
1983	RHODIA			BRAZIL	36X	24		HYDROGEN
1983	S.E.I.F.	ONIA GEGI	GRANDPUITS	FRANCE	900			ETHYLENE
1983	SAECHISCHE OLEFIN	TECHNIP	BOEHLLEN	GERMANY	XM			ETHYLENE
1983	SHELL CHIMIE	LUMMUS	BERRE L'ETANG	FRANCE	900			HYDROGEN
1983	SONATRACH		ARZEW	ALGERIA	35K			
1983	UNION OIL	FOSTER WHEELER		USA	900			HYDROGEN
1983	KRIBHCO			INDIA	HK 40	1008		
1983	DSM GELEEN			NETHERLANDS	36X	425		
1984	ALLIED		GEISMAR	USA	XA			
1984	ANIC	HALDOR TOPSOE	MANFREDONIA	ITALY	900			HYDROGEN
1984	ATOICHEM		GONFREVILLE	FRANCE	36X			ETHYLENE



**REFERENCE LIST**  
**MA NOIR PETROCHEM & NUCLEAR®**

YEAR	COMPANY	DESIGN	LOCATION	COUNTRY	MAIN ALLOY (MANAURITE)	QTY	Unit	PRODUCTION
1965	MEKOG 1	KELLOGG		NETHERLANDS	HK 40	336		
1984	ATOCHEM	STONE & WEBSTER	GONFREVILLE	FRANCE	XM			ETHYLENE
1984	CALTEX UK			SPAIN	XTM			HYDROGEN
1984	CHEMOKOMPLEX			HUNGARY	35K			
1984	CHEVRON	FOSTER WHEELER	RICHMOND	USA	36X	675		HYDROGEN
1984	CHEVRON	SELAS	EL SEGUNDO	USA	36X	64		AMMONIA
1984	CHEVRON	SELAS	EL SEGUNDO	USA	36X	200		AMMONIA
1984	CUBA EQUIPOS	ONIA GEGI		CUBA	900			HYDROGEN
1984	DUPONT	KELLOGG	WILMINGTON	USA	36X	66		AMMONIA
1984	DUPONT	KELLOGG	WILMINGTON	USA	36X	358		AMMONIA
1984	ELF		FEYZIN	FRANCE	36X			ETHYLENE
1984	ESSO	EXXON	N.D. DE GRAVENCHON	FRANCE	XM			ETHYLENE
1984	ESSO	EXXON	STENUNGSUND	SWEDEN	XM			ETHYLENE
1984	ESSO SWEDEN		STENUNGSUND	SWEDEN	XA			
1984	GAS MADRID	HALDOR TOPSOE	MADRID	SPAIN	900			HYDROGEN
1984	KOCH		ST PAUL	USA	36X	66		AMMONIA
1984	KOCH	SELAS	PINEBEND	USA	900			HYDROGEN
1984	LINDE		BOEHLEN	GERMANY	36X			ETHYLENE
1984	LINDE	LINDE	BOEHLEN	GERMANY	900			HYDROGEN
1984	MONTEDISON	LUMMUS	PORTO MARGHERA	ITALY	XM			ETHYLENE
1984	NAPHTACHIMIE	SELAS	LAVERA	FRANCE	XM			ETHYLENE
1984	OMV		WIEN	AUSTRIA	XA			
1984	PETROLES BP		LAVERA	FRANCE	XTM			HYDROGEN
1984	S.E.I.F.	ONIA GEGI	GRANDPUITS	FRANCE	900			HYDROGEN
1984	SHELL		BERRE L'ETANG	FRANCE	36X			ETHYLENE
1984	SIDOBRE (H2 REF.)	KTI	BOUSSENS	FRANCE	XM	8		HYDROGEN
1985	ARCO		FOSTER WHEELER USA	USA	900			HYDROGEN
1985	ARCO		CHANNEL VIEW	USA	XA			
1985	CARCO USA			MEXICO	XTM			HYDROGEN
1985	CDF CHIMIE	ONIA GEGI	CARLING	FRANCE	36X	60		AMMONIA
1985	CDF CHIMIE	ONIA GEGI	CARLING	FRANCE	36X	5		AMMONIA
1985	CDF CHIMIE		DUNKIRK	FRANCE	XTM			ETHYLENE
1985	CHEMOKOMPLEX	HALDOR TOPSOE		HUNGARY	36X	40		AMMONIA
1985	CHEVRON	SELAS	EL SEGUNDO	USA	36X	6		AMMONIA
1985	CNP		SINES	PORTUGAL	36X			ETHYLENE
1985	D.S.M.	LUMMUS	BEEK ELSLOO	NETHERLANDS	36X	72		AMMONIA
1985	DOW CHEMICAL		TERNEUZEN	NETHERLANDS	36X			ETHYLENE
1985	DOW CHEMICAL		TERNEUZEN	NETHERLANDS	36X			ETHYLENE
1985	ELF		FEYZIN	FRANCE	36X			ETHYLENE
1985	ESSO	ESSO	N.D. DE GRAVENCHON	FRANCE	900			HYDROGEN
1985	ESSO		STENUNGSUND	SWEDEN	36X			ETHYLENE
1985	EXXON	OWN	STENUNGSUND	SWEDEN	900B			ETHYLENE
1985	HEURTEY	HEURTEY	CARLING	FRANCE	900 STYRENE			
1985	ICAM	TECHNIP	PRIOLO	ITALY	XM			ETHYLENE
1985	IPCL		BARODA	INDIA	36X			ETHYLENE
1985	KIRCHNER		PORTO MARGHERA	ITALY	XA			
1985	MARATHON	KTI	BURGHAUSEN	GERMANY	36X	30		ETHYLENE
1985	MARATHON		BURGHAUSEN	GERMANY	36X			ETHYLENE
1985	MARATHON	LURGI	BURGHAUSEN	GERMANY	XM			ETHYLENE
1985	N.S.M.	FOSTER WHEELER	SLUISKIL	NETHERLANDS	36X	60		AMMONIA
1985	NAPHTACHIMIE		LAVERA	FRANCE	XA			
1985	NESTE OY	STONE & WEBSTER	PORVOO	FINLAND	XM			ETHYLENE
1985	NESTE OY	LUMMUS	PORVOO	FINLAND	XM			ETHYLENE
1985	OMV		WIEN	AUSTRIA	XA			
1985	PET - NITROGEN	KELLOGG		HUNGARY	36X	462		AMMONIA
1985	PETROCHIM	STONE & WEBSTER	ANTWERP	BELGIUM	XM			ETHYLENE
1985	S.E.I.F.	ONIA GEGI	GRANDPUITS	FRANCE	900			HYDROGEN
1985	SHELL CHIMIE		PETIT COURONNE	FRANCE	XTM			ETHYLENE
1985	STE NORMANDE DE L'AZOTE	ONIA GEGI	HARFLEUR	FRANCE	900			ETHYLENE
1985	TC ENGINEERING	KTI	OLEOFINA	NETHERLANDS	36X	11		HYDROGEN
1985	TECHMASHIMPORT	FOSTER WHEELER		RUSSIA	900			HYDROGEN
1985	TECNIMONT		PORTO MARGHERA	ITALY	36X			ETHYLENE
1985	TENIMONT	HALDOR TOPSOE	FERRARA	ITALY	900			HYDROGEN
1985	PUPUK ISKANDAR MUDA / ACEH SUMATRA			INDONESIA	HK 40	20		
1986	ALLIED		GEISMAR	USA	36X			ETHYLENE
1986	ATOCHEM	STONE & WEBSTER	GONFREVILLE	FRANCE	XM			ETHYLENE
1986	ATOCHEM	STONE & WEBSTER	GONFREVILLE	FRANCE	XM			ETHYLENE
1986	BASF		LUDWIGSHAFEN	GERMANY	XA			
1986	CDF CHIMIE	HEURTEY / H. TOPSOE	GRAND QUEVILLY	FRANCE	XM			ETHYLENE
1986	CDF CHIMIE	HEURTEY / H. TOPSOE	GRAND QUEVILLY	FRANCE	XM			ETHYLENE
1986	CDF CHIMIE	ONIA GEGI	CARLING	FRANCE	900			HYDROGEN
1986	CDF CHIMIE		CARLING	FRANCE	900B			ETHYLENE
1986	CHEMOKOMPLEX	HALDOR TOPSOE		HUNGARY	36X	60		AMMONIA
1986	CHEMOKOMPLEX	HALDOR TOPSOE	VARPALOTA	HUNGARY	900			HYDROGEN
1986	CHEVRON	FOSTER WHEELER	PASCAGOULA	USA	900			HYDROGEN
1986	CHEVRON		PASCAGOULA	USA	900 HYDR			
1986	CNP SINES	SELAS KIRCHNER	SINES	PORTUGAL	900			ETHYLENE
1986	COMINCO	KELLOGG	CALGARY	CANADA	36X	445		AMMONIA
1986	COPENE	LUMMUS	SALVADOR BAHIA	BRAZIL	XM			ETHYLENE





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MA NOIR PETROCHEM & NUCLEAR®

YEAR	COMPANY	DESIGN	LOCATION	COUNTRY	MAIN ALLOY (MANAURITE)	QTY	Unit	PRODUCTION
1965	MEKOG 1	KELLOGG		NETHERLANDS	HK 40	336		
1986	COPELUL	TECHNIP	TRIUNFO	BRAZIL	XM			ETHYLENE
1986	CORPUS CHRISTI	STONE & WEBSTER	CORPUS CHRISTI	USA	XM			ETHYLENE
1986	CORPUS CHRISTI	STONE & WEBSTER	CORPUS CHRISTI	USA	900B			ETHYLENE
1986	CUBAEQUIPOS	ONIA GEGI	NUEVITAS	CUBA	36X	55		AMMONIA
1986	CUBAEQUIPOS	ONIA GEGI	NUEVITAS	CUBA	36X	26		AMMONIA
1986	EKO	EXXON	THESSALONIKI	GREECE	36X	12		AMMONIA
1986	ELF		FEYZIN	FRANCE	36X			ETHYLENE
1986	EMPRESA DE PETROQUIMICA	UHDE		PORTUGAL	36X	112		BM
1986	ENICHEM	TECHNIP	PRIOLO	ITALY	XM			ETHYLENE
1986	ESSO CHIMIE		N.D. DE GRAVENCHON	FRANCE	36X			ETHYLENE
1986	ESSO CHIMIE	ESSO	N.D. DE GRAVENCHON	FRANCE	900			HYDROGEN
1986	ESSO CHIMIE	EXXON	N. D. GRAVENCHON	FRANCE	900B			ETHYLENE
1986	ESSO CHIMIE	EXXON	N. D. GRAVENCHON	FRANCE	900B			ETHYLENE
1986	ESSO SAF		PORT JEROME	FRANCE	XTM			ETHYLENE
1986	EXXON	FOSTER WHEELER	BATON ROUGE	USA	900B			ETHYLENE
1986	GAS MADRID		MADRID	SPAIN	900			HYDROGEN
1986	I.P.S. LUX. / K.H.I.			JAPAN	35K			
1986	I.P.S. LUX. / K.H.I.			CHILE	35K			
1986	I.P.S. LUX. / K.H.I.			NIGERIA	35K			
1986	ICAM	TECHNIP	PRIOLO	ITALY	XM			ETHYLENE
1986	INDO GULF	SNAM PREGETTI	JAGDISHPUR	INDIA	900			AMMONIA
1986	KOCH	SELAS	ST PAUL	USA	36X	12		AMMONIA
1986	LIQUICHIMICA AUGUSTA		AUGUSTA	ITALY	900			HYDROGEN
1986	LURGI GERMANY			PORTUGAL	XTM			
1986	MARATHON	SELAS	BURGHAUSEN	GERMANY	XM			ETHYLENE
1986	METANOR	DAVY MC KEE	CAMACARI	BRAZIL	900			HYDROGEN
1986	MOBIL OIL		N. D. DE GRAVENCHON	FRANCE	XTM			ETHYLENE
1986	MONTEDISON		PORTO MARGHERA	ITALY	36X			ETHYLENE
1986	N.S.M.	FOSTER WHEELER	SLUISKIL	NETHERLANDS	900			HYDROGEN
1986	NAPHTACHIMIE		LAVERA	FRANCE	36X			ETHYLENE
1986	NAPHTACHIMIE	SELAS	LAVERA	FRANCE	XM			ETHYLENE
1986	NAPHTACHIMIE	SELAS	LAVERA	FRANCE	XM			ETHYLENE
1986	NAPHTACHIMIE	TECHNIP	LAVERA	FRANCE	XM			ETHYLENE
1986	NAPHTACHIMIE	SELAS	LAVERA	FRANCE	900			ETHYLENE
1986	NESTE OY	LUMMUS	PORVOO	FINLAND	XM			ETHYLENE
1986	NESTE OY	STONE & WEBSTER	PORVOO	FINLAND	XM			ETHYLENE
1986	NITROFERTIL	KELLOGG	SALVADOR BAHIA	BRAZIL	900			AMMONIA
1986	NITROFERTIL	KELLOGG	SALVADOR BAHIA	BRAZIL	900			AMMONIA
1986	NITROFERTIL		SALVADOR BAHIA	BRAZIL	35K			
1986	NORSK HYDRO	SELAS KIRCHNER	RAFNES	NORWAY	XM			ETHYLENE
1986	NORSK HYDRO	SELAS	RAFNES	NORWAY	XM			ETHYLENE
1986	NORSK HYDRO	LINDE	RAFNES	NORWAY	XM			ETHYLENE
1986	NORSK HYDRO		RAFNES	NORWAY	900			ETHYLENE
1986	NORSK HYDRO		RAFNES	NORWAY	XA			
1986	O.M.V.	KTI	SCHWECHAT	AUSTRIA	900			ETHYLENE
1986	PETROCHIM	STONE & WEBSTER	ANTWERP	BELGIUM	36X	20		
1986	PETROCHIM	STONE & WEBSTER	ANTWERP	BELGIUM	XM			ETHYLENE
1986	PETROCHIM	STONE & WEBSTER	ANTWERP	BELGIUM	XM			ETHYLENE
1986	PHILLIPS PETROLEUM		OLD OCEAN	USA	36X			ETHYLENE
1986	PIPING ENGINEERING	CHIYODA	PETROMINE	SAUDI ARABIA	900			HYDROGEN
1986	PUSRI		PALEMBANG	INDONESIA	35K			
1986	PUSRI (N13 REF.)	KELLOGG	PALEMBANG	INDONESIA	XM	130		AMMONIA
1986	RHONE POULENC		ST FONS	FRANCE	36X	22		TG
1986	RHONE POULENC	FOSTER WHEELER	CHALAMPE	FRANCE	900			HYDROGEN
1986	S.E.I.F.	ONIA GEGI	GRANDPUITS	FRANCE	900			HYDROGEN
1986	SADACEM	KELLOGG	TERTRE	BELGIUM	36X	8		AMMONIA
1986	SCHMID' SCHE HEISSDAMPF	EXXON	KASSEL	GERMANY	900B			ETHYLENE
1986	SHELL FRANCAISE		AUBETTE	FRANCE	36X			ETHYLENE
1986	SNA	HALDOR TOPSOE	HARFLEUR	FRANCE	900B			ETHYLENE
1986	SNAM PROGETTI ITALY			INDIA	2424NB	288		
1986	STATOIL		STENUNGSUND	SWEDEN	36X			ETHYLENE
1986	STATOIL	EXXON	STENUNGSUND	SWEDEN	XM			ETHYLENE
1986	STATOIL	EXXON	STENUNGSUND	SWEDEN	900B			ETHYLENE
1986	STE NORMANDE DE L'AZOTE		HARFLEUR	FRANCE	XTM			ETHYLENE
1986	TERNI	FOSTER WHEELER	NERA MONTORO	ITALY	36X	16		AMMONIA
1986	TERNICHIMICA	FOSTER WHEELER	NERA MONTORO	ITALY	XM	21		HYDROGEN
1986	TEXACO		LONGVIEW	USA	36X			ETHYLENE
1986	TEXAS EASTMAN		LONGVIEW	USA	36X			ETHYLENE
1986	TRINGEN NITROGEN	FOSTER WHEELER IT.	POINT LISAS	TRINIDAD	900			HYDROGEN
1986	UNION TEXAS PETROLEUM	LUMMUS	GEISMAR	USA	36X			
1986	UNION TEXAS PETROLEUM		GEISMAR	USA	36X			ETHYLENE
1986	PETROQUIMICA			Portugal	50/50 NB/36X	114		
1987	ASMIDAL		ARZEW	ALGERIA	35K			
1987	ATOCHM	STONE & WEBSTER	GONFREVILLE	FRANCE	XM			ETHYLENE
1987	CDF CHIMIE		DUNKIRK	FRANCE	XTM			ETHYLENE
1987	CDF CHIMIE		CARLING	FRANCE	XTM			ETHYLENE
1987	CDF CHIMIE		DUNKIRK	FRANCE	XTM			ETHYLENE
1987	CHIMCOMPLECT			BULGARIA	36X			ETHYLENE



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**MA NOIR PETROCHEM & NUCLEAR®**

YEAR	COMPANY	DESIGN	LOCATION	COUNTRY	MAIN ALLOY (MANAURITE)	QTY	Unit	PRODUCTION
1965	MEKOG 1			NETHERLANDS	HK 40	336		
1987	CHINA PETROLEUM INT. CY		BEIJING	CHINA	36X			ETHYLENE
1987	CNP		SINES	PORTUGAL	36X			ETHYLENE
1987	COPELUL	TECHNIP	TRIUNFO	BRAZIL	XM			ETHYLENE
1987	COPELUL	TECHNIP	TRIUNFO	BRAZIL	XM			ETHYLENE
1987	CORPUS CHRISTI	STONE & WEBSTER	CORPUS CHRISTI	USA	XM			ETHYLENE
1987	CPC			TAIWAN	2424NB	110		
1987	DOW CHEMICAL	LUMMUS	TERNEUZEN	NETHERLANDS	XM			ETHYLENE
1987	DOW CHEMICAL	LUMMUS	TERNEUZEN	NETHERLANDS	XM			ETHYLENE
1987	DOW CHEMICAL		PLAQUEMINE	USA	900B			ETHYLENE
1987	DOW CHEMICAL	FOSTER WHEELER	PLAQUEMINE	USA	XM			ETHYLENE
1987	DOW CHEMICAL		TERNEUZEN	NETHERLANDS	XA			ETHYLENE
1987	DOW USA		PLAQUEMINE	USA	900B			ETHYLENE
1987	DUPONT / SABINE RIVER		ORANGE, TEXAS	USA	36X			ETHYLENE
1987	DUPONT DE NEMOURS	FOSTER WHEELER	BEAUMONT	USA	36X	70		AMMONIA
1987	ENICHEM BASE	FOSTER WHEELER	GELA	ITALY	XM			ETHYLENE
1987	ENICHEM BASE	SELAS	PORTO TORRES	ITALY	XM			ETHYLENE
1987	EXXON	OWN	N.D. DE GRAVENCHON	FRANCE	36X			ETHYLENE
1987	EXXON	HEURTEY	N.D. DE GRAVENCHON	FRANCE	900B			ETHYLENE
1987	EXXON	OWN	BATON ROUGE	USA	XM			ETHYLENE
1987	EXXON	HEURTEY	N.D. DE GRAVENCHON	FRANCE	XM			ETHYLENE
1987	EXXON	OWN	N.D. DE GRAVENCHON	FRANCE	XTM			ETHYLENE
1987	HEURTEY PETROCHEM FRANCE		N. D. DE GRAVENCHON	FRANCE	XTM			ETHYLENE
1987	HOWE BAKER	HOWE BAKER	CALUMET	USA	36X	40		AMMONIA
1987	I.P.S. LUX. / K.H.I.			CHILE	35K			
1987	IFFCO	KELLOGG	PHULPUR	INDIA	36X/900	360		AMMONIA
1987	INTRAC	SELAS	BOEHLEN	GERMANY	XM			ETHYLENE
1987	KELLOGG		ARZEW	ALGERIA	35K			
1987	KEMIRA SA	KELLOGG	TERTRE	BELGIUM	36X/900	360		AMMONIA
1987	MARATHON	SELAS	BURGHAUSEN	GERMANY	XM			ETHYLENE
1987	NAPHTACHIMIE	SELAS	LAVERA	FRANCE	XM			ETHYLENE
1987	NAPHTACHIMIE	TECHNIP	LAVERA	FRANCE	XM			ETHYLENE
1987	NESTE OY	STONE & WEBSTER	PORVOO	FINLAND	XM			ETHYLENE
1987	NESTE OY	STONE & WEBSTER	PORVOO	FINLAND	XM			ETHYLENE
1987	NESTE OY	STONE & WEBSTER	PORWOO	FINLAND	900B			ETHYLENE
1987	NESTE OY	STONE & WEBSTER	PORWOO	FINLAND	900B			ETHYLENE
1987	NORSK HYDRO		RAFNES	NORWAY	36X			ETHYLENE
1987	NORSK HYDRO	LINDE/SELAS KIRCHNER	RAFNES	NORWAY	XM			ETHYLENE
1987	NORSK HYDRO	SELAS KIRCHNER	RAFNES	NORWAY	XM			ETHYLENE
1987	O.M.V.	TECHNIP	LINZ	AUSTRIA	XM			ETHYLENE
1987	O.M.V.	TECHNIP	LINZ	AUSTRIA	XM			ETHYLENE
1987	O.M.V.	TECHNIP	LINZ	AUSTRIA	XM			ETHYLENE
1987	OMV		LINZ	AUSTRIA	XA			
1987	P.C.S.	JGC	SINGAPORE	SINGAPORE	XM			ETHYLENE
1987	PCS			SINGAPORE	36X			ETHYLENE
1987	PETROCHIM	STONE & WEBSTER	ANTWERP	BELGIUM	XM			ETHYLENE
1987	QAPCO	TECHNIP	MESSAIED	QATAR	XM			ETHYLENE
1987	RHONE POULENC	KTI	BELLE ETOILE	FRANCE	XM	64		HYDROGEN
1987	RHONE POULENC	FOSTER WHEELER	CHALAMPE	FRANCE	XM	46		HYDROGEN
1987	S.N.A.		ONIA GEGI	FRANCE	XM			ETHYLENE
1987	SADACEM	KELLOGG	TERTRE	BELGIUM	900			AMMONIA
1987	SEIF	ONIA GEGI	GRANDPUITS	FRANCE	XM			ETHYLENE
1987	SHELL	LUMMUS	BERRE L'ETANG	FRANCE	XM			ETHYLENE
1987	SHELL FRANCAISE		BERRE L'ETANG	FRANCE	36X			ETHYLENE
1987	STATOIL		STENUNGSUND	SWEDEN	36X			ETHYLENE
1987	STATOIL	EXXON	STENUNGSUND	SWEDEN	XM			ETHYLENE
1987	STATOIL	EXXON	STENUNGSUND	SWEDEN	XM			ETHYLENE
1987	STATOIL		STENUNGSUND	SWEDEN	XTM			ETHYLENE
1987	STATOIL		STENUNGSUND	SWEDEN	XTM			ETHYLENE
1987	STATOIL		STENUNGSUND	SWEDEN	XTM			ETHYLENE
1987	STATOIL	EXXON	STENUNGSUND	SWEDEN	900B			ETHYLENE
1987	STATOIL	EXXON	STENUNGSUND	SWEDEN	900B			ETHYLENE
1987	TERNI	TECHNIP	TERNI	ITALY	XM			ETHYLENE
1987	TEXAS EASTMAN			USA	36X			ETHYLENE
1987	UNION TEXAS PETROLEUM		GEISMAR	USA	36X			ETHYLENE
1987	UNION TEXAS PETROLEUM		GEISMAR	USA	36X			ETHYLENE
1988	ALTONA	FOSTERWHEELER UK	ALTONA	AUSTRALIA	900B			ETHYLENE
1988	ASMIDAL		ANNABA	ALGERIA	35K			
1988	ATOCEM		GONFREVILLE	FRANCE	36X			ETHYLENE
1988	ATOCEM	STONE & WEBSTER	GONFREVILLE	FRANCE	XM			ETHYLENE
1988	ATOCEM	FOSTER WHEELER	GONFREVILLE	FRANCE	XM			ETHYLENE
1988	CDF CHIMIE		CARLING	FRANCE	XTM			ETHYLENE
1988	CNP	SELAS KIRCHNER	SINES	PORTUGAL	XM			ETHYLENE
1988	DOW	SELAS	PLAQUEMINE	USA	900B			ETHYLENE
1988	DOW	SELAS	PLAQUEMINE	USA	900B			ETHYLENE
1988	DOW	SELAS	FREEPORT	USA	900B			ETHYLENE
1988	DOW CHEMICAL		TERNEUZEN	NETHERLANDS	36X			ETHYLENE
1988	DOW CHEMICAL	SELAS	PLAQUEMINE	USA	XM			ETHYLENE
1988	DOW CHEMICAL	SELAS	PLAQUEMINE	USA	XM			ETHYLENE



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**MA NOIR PETROCHEM & NUCLEAR®**

YEAR	COMPANY	DESIGN	LOCATION	COUNTRY	MAIN ALLOY (MANAURITE)	QTY	Unit	PRODUCTION
1965	MEKOG 1	KELLOGG		NETHERLANDS	HK 40	336		
1988	DOW CHEMICAL	SELAS	FREEPORT	USA	XM			ETHYLENE
1988	DUPERIAL	SELAS	SAN LORENZO	ARGENTINA	XM			ETHYLENE
1988	ELF		FEYZIN	FRANCE	36X			ETHYLENE
1988	ENICHEM	MONTEDIPE	PRIOLO	ITALY	XM			ETHYLENE
1988	ENICHEM	MONTEDIPE	GELA	ITALY	XM			ETHYLENE
1988	ENICHEM ANIC	MONTEDIPE	PRIOLO	ITALY	900			ETHYLENE
1988	EXXON	OWN	BATON ROUGE	USA	XTM			ETHYLENE
1988	FINANESTE	STONE & WEBSTER	ANTWERP	BELGIUM	XM			ETHYLENE
1988	HAN YANG CHEMICAL CO LTD		SEOUL	KOREA	900B			ETHYLENE
1988	HOECHST		GENDORF	GERMANY	900			ETHYLENE
1988	MARATHON	TECHNIP	BURGHAUSEN	GERMANY	XM			ETHYLENE
1988	MARATHON	KTI	BURGHAUSEN	GERMANY	900			ETHYLENE
1988	MONTEDIPE	LUMMUS	PORTO MARGHERA	ITALY	XM			ETHYLENE
1988	MONTEDIPE	LUMMUS	PORTO MARGHERA	ITALY	XM			ETHYLENE
1988	MONTEDIPE	LUMMUS	PORTO MARGHERA	ITALY	900			ETHYLENE
1988	MONTEDIPE	LUMMUS	PORTO MARGHERA	ITALY	900			ETHYLENE
1988	MONTEDIPE	LUMMUS	PORTO MARGHERA	ITALY	900B			ETHYLENE
1988	NAPHTACHIMIE	LINDE	LAVERA	FRANCE	XM			ETHYLENE
1988	NAPHTACHIMIE	TECHNIP	LAVERA	FRANCE	XM			ETHYLENE
1988	NAPHTACHIMIE	LINDE	LAVERA	FRANCE	900			ETHYLENE
1988	NORSK HYDRO	LINDE/SELAS KIRCHNER	RAFNES	NORWAY	XM			ETHYLENE
1988	NORSOLOR	LUMMUS	DUNKERQUE	FRANCE	XM			ETHYLENE
1988	NORSOLOR		CARLING	FRANCE	XTM			ETHYLENE
1988	O.M.V.	TECHNIP	LINZ	AUSTRIA	XM			ETHYLENE
1988	O.M.V.	TECHNIP	LINZ	AUSTRIA	XM			ETHYLENE
1988	PGC / SOL	KTI	MONZA	ITALY	36X	2		AMMONIA
1988	PHILLIPS PETROLEUM	SANTA FE BRAUN	SWEENEY / TEXAS	USA	XM			ETHYLENE
1988	STATOIL	EXXON	STENUNGSUND	SWEDEN	XM			ETHYLENE
1988	STATOIL	EXXON	STENUNGSUND	SWEDEN	900B			ETHYLENE
1988	STATOIL	EXXON	STENUNGSUND	SWEDEN	900B			ETHYLENE
1988	UNION CARBIDE	STONE & WEBSTER	TAFT	USA	900			ETHYLENE
1988	UNOCAL	FOSTER WHEELER	WILMINGTON	USA	36X	176		AMMONIA
1988	WHEELABRATOR	SELAS FRANCE	ALLEVARD	FRANCE	XM			ETHYLENE
1988	YUKONG LTD ULSAN/BUSAN (for 352	NIIGATA JAPAN	ULSAN	KOREA	900			ETHYLENE
1989	AGRIMONT	KELLOGG	PRIOLO	ITALY	36X900	260		AMMONIA
1989	AIR LIQUIDE	LURGI	ESTARREJA	PORTUGAL	XM	26		HYDROGEN
1989	ALLIED	KELLOGG	GEISMAR	USA	XM			ETHYLENE
1989	ALTONA	STONE & WEBSTER	ALTONA	AUSTRALIA	XM			ETHYLENE
1989	ATOCHEM	STONE & WEBSTER	GONFREVILLE	FRANCE	XM			ETHYLENE
1989	ATOCHEM		GONFREVILLE	FRANCE	MAN 20			
1989	BP CHEMICALS	FOSTER WHEELER	HULL	UK	36X	6		AMMONIA
1989	CHEVRON	FOSTER WHEELER	PASCAGOULA	USA	36X	45		AMMONIA
1989	CNP	SELAS KIRCHNER	SINES	PORTUGAL	XM			ETHYLENE
1989	CNP	SELAS KIRCHNER	SINES	PORTUGAL	XM			ETHYLENE
1989	CNP SINES	SELAS KIRCHNER	SINES	PORTUGAL	900			ETHYLENE
1989	COPENE	LUMMUS	CAMACARI	BRAZIL	XM			ETHYLENE
1989	COPENE		CAMACARI	BRAZIL	XTM			ETHYLENE
1989	DOW BENELUX	LUMMUS	TERNEUZEN	NETHERLANDS	XM			ETHYLENE
1989	DOW CHEMICAL	SELAS	FREEPORT	USA	XM			ETHYLENE
1989	DOW CHEMICAL	SELAS	PLAQUEMINE	USA	XM			ETHYLENE
1989	ELF FRANCE	TECHNIP	FEYZIN	FRANCE	XM			ETHYLENE
1989	ENICHEM	KIRCHNER	GELA	ITALY	XM			ETHYLENE
1989	ENICHEM	TECHNIP	PORTO TORRES	ITALY	XM			ETHYLENE
1989	ENICHEM	TECHNIP	GELA	ITALY	XM			ETHYLENE
1989	ENICHEM	TECHNIP	BRINDISI	ITALY	XM			ETHYLENE
1989	ENICHEM	TECHNIP	PRIOLO	ITALY	XM			ETHYLENE
1989	ESFAHAN	KTI	ESFAHAN	IRAN	36X	6		AMMONIA
1989	EXXON	OWN	BATON ROUGE	USA	XTM			ETHYLENE
1989	EXXON	OWN	N.D. DE GRAVENCHON	FRANCE	XM			ETHYLENE
1989	EXXON	HEURTEY	N.D. DE GRAVENCHON	FRANCE	XM			ETHYLENE
1989	EXXON	OWN	BAYTOWN	USA	XM			ETHYLENE
1989	FINANESTE	TECHNIP	ANTWERP	BELGIUM	XM			ETHYLENE
1989	FINANESTE	STONE & WEBSTER	ANTWERP	BELGIUM	XM			ETHYLENE
1989	FINANESTE	STONE & WEBSTER	ANTWERP	BELGIUM	XM			ETHYLENE
1989	HEURTEY / NORSOLOR		CARLING	FRANCE	MAN 20			
1989	HYDRO	SELAS KIRCHNER	PORSGRUNN	NORWAY	XM			ETHYLENE
1989	HYDRO	LINDE/SELAS KIRCHNER	RAFNES	NORWAY	XM			ETHYLENE
1989	HYUNDAI PEROCHEMICAL	KELLOGG	DAESAN	KOREA	900B			ETHYLENE
1989	ISAB		PRIOLO	ITALY	MAN 20			
1989	KIRCHNER			ITALY	MAN 20			
1989	MARATHON	TECHNIP	BURGHAUSEN	GERMANY	XM			ETHYLENE
1989	MOBIL (S & W)		BEAUMONT (TX)	USA	3525_5W			
1989	MONTEDIPE	LUMMUS	PORTO MARGHERA	ITALY	XM			ETHYLENE
1989	NAPHTACHIMIE	TECHNIP	LAVERA	FRANCE	XM			ETHYLENE
1989	NORSK HYDRO	HUMPHREYS & GLASGOW	PORSGRUNN	NORWAY	XM	20		HYDROGEN
1989	NORSOLOR	HEURTEY	CARLING	FRANCE	XM			ETHYLENE
1989	NORSOLOR		CARLING	FRANCE	XTM			ETHYLENE
1989	O.M.V.	TECHNIP	LINZ	AUSTRIA	XM			ETHYLENE



**REFERENCE LIST**  
MA NOIR PETROCHEM & NUCLEAR®

YEAR	COMPANY	DESIGN	LOCATION	COUNTRY	MAIN ALLOY (MANAURITE)	QTY	Unit	PRODUCTION
1965	MEKOG 1	KELLOGG		NETHERLANDS	HK 40	336		
1989	P.C.K.	HUMPHREYS & GLASGOW	SCHWEDT	GERMANY	XM	176		HYDROGEN
1989	PHILLIPS PETROLEUM	SANTE FE BRAUN	SWEENY / TEXAS	USA	XM			ETHYLENE
1989	QAPCO	TECHNIP	MESSAIED	QATAR	XM			ETHYLENE
1989	QAPCO	TECHNIP	MESSAIED	QATAR	XM			ETHYLENE
1989	RHONE POULENC	KTI	BELLE ETOILE	FRANCE	XM	2		HYDROGEN
1989	SAPIO INDUSTRIE	HOWE BAKER	FERRANDINA	ITALY	36X	7		AMMONIA
1989	SHELL	STONE & WEBSTER	MOERDIJK	NETHERLANDS	XM			ETHYLENE
1989	SHELL	STONE & WEBSTER	MOERDIJK	NETHERLANDS	XM			ETHYLENE
1989	SHELL	STONE & WEBSTER	KLUNDERT MOERDIJK	NETHERLANDS	XM			ETHYLENE
1989	SHELL AUBETTE	LUMMUS	BERRE L'ETANG	FRANCE	XM			ETHYLENE
1989	SHELL AUBETTE	LUMMUS	BERRE L'ETANG	FRANCE	XM			ETHYLENE
1989	SHELL AUBETTE	LUMMUS	BERRE L'ETANG	FRANCE	900			ETHYLENE
1989	SIDOR	HYL	PUERTO ORDAZ	VENEZUELA	XM			ETHYLENE
1989	SIR / TOTAL	KTI	ABIDJAN	IVORY COAST	XM	176		HYDROGEN
1989	STATOIL	EXXON	STENUNGSUND	SWEDEN	XM			ETHYLENE
1989	STATOIL	EXXON	STENUNGSUND	SWEDEN	900B			ETHYLENE
1989	STATOIL	EXXON	STENUNGSUND	SWEDEN	900B			ETHYLENE
1989	STE NORMANDE DE L'AZOTE	ONIA GEGI	HARFLEUR	FRANCE	XM	42		HYDROGEN
1989	VISTA CHEMICAL (S & W)		LAKE CHARLES (LS)	USA	3525_5W			
1989	EXXON	OWN	N.D. DE GRAVENCHON	FRANCE	900B & XM			
1989	ATOCHM	HEURTEY		FRANCE	XTM & CF 10			
1989	ATOCHM	HEURTEY		FRANCE	HK 40 & CF 8			
1990	ALPET		IZMIR	TURKEY	36X			ETHYLENE
1990	ATOCHM	HEURTEY	GONFREVILLE	FRANCE	XM			ETHYLENE
1990	ATOCHM		CARLING	FRANCE	MAN 20			
1990	ATOCHM		GONFREVILLE	FRANCE	MAN 20			
1990	ATOCHM		MARSEILLE	FRANCE	MAN 20			
1990	BP CHEMICALS	FOSTER WHEELER	HULL	UK	36X	6		AMMONIA
1990	BP CHEMICALS	HALDOR TOPSOE	ULSAN	KOREA	XM	89		HYDROGEN
1990	CHEMOKOMPLEX	TECHNIP	LENINVAROS	HUNGARY	XM			ETHYLENE
1990	CNTIC	FOSTER WHEELER FCE	FULING	CHINA	900			AMMONIA
1990	CNTIC	FOSTER WHEELER FCE	JINXI	CHINA	900			AMMONIA
1990	COPENE	LUMMUS	CAMACARI	BRAZIL	XM			ETHYLENE
1990	D.M.P. MINERALOEL	TECHNIP	BURGHAUSEN	GERMANY	XM			ETHYLENE
1990	DOW	SELAS	FREEPORT	USA	900B			ETHYLENE
1990	DUPERIAL	SELAS	SAN LORENZO	ARGENTINA	XM			ETHYLENE
1990	ENICHEM	TECHNIP	PRIOLO	ITALY	XM			ETHYLENE
1990	ENICHEM		PORTO TORRES	ITALY	XM			ETHYLENE
1990	ENICHEM	KTI	AUGUSTA	ITALY	XM	38		HYDROGEN
1990	ENICHEM		PORTO TORRES	ITALY	MAN 20			ETHYLENE
1990	ENIMONT / ANIC		GELA	ITALY	MAN 20			
1990	EXXON	OWN	N.D. DE GRAVENCHON	FRANCE	36X			ETHYLENE
1990	EXXON	OWN	N.D. DE GRAVENCHON	FRANCE	36X			ETHYLENE
1990	EXXON	OWN	N.D. DE GRAVENCHON	FRANCE	900B			ETHYLENE
1990	EXXON	OWN	N.D. DE GRAVENCHON	FRANCE	MAN 20			
1990	EXXON CHEMICAL	OWN	BATON ROUGE	USA	XM			ETHYLENE
1990	EXXON	OWN	BAYTOWN	USA	XM			ETHYLENE
1990	FINANESTE	STONE & WEBSTER	ANTWERP	BELGIUM	XM			ETHYLENE
1990	HEURTEY P. / ATOCHM		FOS/MER	FRANCE	MAN 20			
1990	HYDRO	SELAS KIRCHNER	RAFNES	NORWAY	XM			ETHYLENE
1990	HYDRO		RAFNES	NORWAY	900			ETHYLENE
1990	INTRAC			GERMANY	MAN 20			
1990	KELLOGG			USA	MAN 20			
1990	KELLOGG / UTP		GEISMAR	USA	XTM			ETHYLENE
1990	L.V.M.			BELGIUM	MAN 20			
1990	MARATHON	TECHNIP	BURGHAUSEN	GERMANY	XM			ETHYLENE
1990	MEI / P.C.S.			SINGAPORE	MAN 20			
1990	MONTEDIPE	LUMMUS	PORTO MARGHERA	ITALY	XM			ETHYLENE
1990	NAPHTACHIMIE	LUMMUS	LAVERA	FRANCE	XM			ETHYLENE
1990	NAPHTACHIMIE	TECHNIP	LAVERA	FRANCE	XM			ETHYLENE
1990	NESTE	STONE & WEBSTER	PORVOO	FINLAND	XM			ETHYLENE
1990	NESTE CHEMICALS		SINES	PORTUGAL	36X			ETHYLENE
1990	NESTE CHEMICALS	SELAS KIRCHNER	SINES	PORTUGAL	XM			ETHYLENE
1990	NESTE CHEMICALS			PORTUGAL	MAN 20			
1990	NORSOLOR	LUMMUS	CARLING	FRANCE	XM			ETHYLENE
1990	NORSOLOR	LUMMUS	CARLING	FRANCE	XM			ETHYLENE
1990	NORSOLOR		CARLING	FRANCE	MAN 20			
1990	NORSOLOR		CARLING	FRANCE	XTM			ETHYLENE
1990	P.C.S.	JGC	MERBAU	SINGAPORE	XM			ETHYLENE
1990	P.C.S.	JGC	MERBAU	SINGAPORE	XM			ETHYLENE
1990	PCS			SINGAPORE	36X			ETHYLENE
1990	PERTAMINA	LURGI	BUNYU	INDONESIA	36X	28		AMMONIA
1990	PETROQUIMICA BAHIA BL.	LINDE	BAHIA BLANCA	ARGENTINA	XM			ETHYLENE
1990	PETROX			CHILE	MAN 20			
1990	QAPCO	TECHNIP	MESSAIED	QATAR	XM			ETHYLENE
1990	SEMADCO	KTI	SUEZ	EGYPT	XM	86		HYDROGEN
1990	SEMADCO	KTI ITALY	SUEZ	EGYPT	900			AMMONIA
1990	SHELL	LUMMUS	BERRE L'ETANG	FRANCE	XM			ETHYLENE



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**MA NOIR PETROCHEM & NUCLEAR®**

YEAR	COMPANY	DESIGN	LOCATION	COUNTRY	MAIN ALLOY (MANAURITE)	QTY	Unit	PRODUCTION
1965	MEKOG 1			NETHERLANDS	HK 40	336		
1990	SHELL		PETIT COURONNE	FRANCE	MAN 20			
1990	SHELL CHIMIE	LUMMUS	BERRE L'ETANG	FRANCE	XM			ETHYLENE
1990	SHELL CHIMIE	LUMMUS	BERRE L'ETANG	FRANCE	XM			ETHYLENE
1990	SHELL FRANCAISE		BERRE L'ETANG	FRANCE	36X			ETHYLENE
1990	SHELL NEDERLAND		KLUNDERT	NETHERLANDS	XM			ETHYLENE
1990	SNEAP			FRANCE	MAN 20			
1990	STAL / GFC			SYRIA	MAN 20			
1990	STATOIL	EXXON	STENUNGSUND	SWEDEN	XM			ETHYLENE
1990	STATOIL		STENUNGSUND	SWEDEN	XTM			ETHYLENE
1990	TERNI IND. CHIMICHE	FOSTER WHEELER	TERNI	ITALY	XM	17		HYDROGEN
1990	TEXAS EASTMAN	LUMMUS	LONGVIEW	USA	XM			ETHYLENE
1990	VEB OTTO GROTEWOHL	SELAS	BOEHLEN	GERMANY	XM			ETHYLENE
1990	UNION TEXAS PETROLEUM	KELLOGG	GEISMAR	USA	XTM			ETHYLENE
1990	WESTLAKE	KELLOGG	LAKE CHARLES (LS)		XTM			ETHYLENE
1991	ABB LUMMUS	LUMMUS		IRAN	MAN 20			
1991	AGRIMONT	SNAM PROGETTI	FERRARA	ITALY	900			HYDROGEN
1991	ATOCEM	STONE & WEBSTER	GONFREVILLE	FRANCE	XM			ETHYLENE
1991	ATOCEM	LUMMUS	CARLING	FRANCE	XM			ETHYLENE
1991	ATOCEM	STONE & WEBSTER	GONFREVILLE	FRANCE	900			ETHYLENE
1991	ATOCEM		CARLING	FRANCE	MAN 20			
1991	ATOCEM		GONFREVILLE	FRANCE	MAN 20			
1991	ATOCEM		MARSEILLE	FRANCE	MAN 20			
1991	ATOCEM		CARLING	FRANCE	MAN 20			
1991	ATOCEM		CARLING	FRANCE	XTM			ETHYLENE
1991	CARIBBEAN METHANOL CY	DAVY MC KEE	POINT LISAS	TRINIDAD & TOBAGO	XM	388		HYDROGEN
1991	CHEVRON	FOSTER WHEELER	PASCAGOULA	USA	900			HYDROGEN
1991	COPENE	LUMMUS	CAMACARI	BRAZIL	XM			ETHYLENE
1991	COPENOR		DUNKIRK	FRANCE	36X			ETHYLENE
1991	COPENOR	STONE & WEBSTER	DUNKERQUE	FRANCE	XM			ETHYLENE
1991	COPENOR		DUNKIRK	FRANCE	MAN 20			
1991	CUNADO			SPAIN	MAN 20			
1991	D.M.P. MINERALOEL	TECHNIP	BURGHAUSEN	GERMANY	XM			ETHYLENE
1991	D.S.M.	TECHNIP	GELEEN	NETHERLANDS	XM			ETHYLENE
1991	DALMINE			ITALY	MAN 20			
1991	DUPERIAL	SELAS	SAN LORENZO	ARGENTINA	XM			ETHYLENE
1991	ECOPETROL			COLUMBIA	MAN 20			
1991	ELF FRANCE	TECHNIP	FEYZIN	FRANCE	XM			ETHYLENE
1991	ELF FRANCE		CARLING	FRANCE	XTM			ETHYLENE
1991	ENICHEM		PORTO TORRES	ITALY	MAN 20			ETHYLENE
1991	ENICHEM AGRICULTURA	SELAS	SAN GIUSEPPE DI CAIRO	ITALY	XM	150		HYDROGEN
1991	ENIMONT	TECHNIP	PRIOLO	ITALY	XM			ETHYLENE
1991	ENIMONT		PORTO TORRES	ITALY	MAN 20			ETHYLENE
1991	ENIMONT / ANIC		PORTO TORRES	ITALY	MAN 20			ETHYLENE
1991	EXXON	OWN	N.D. DE GRAVENCHON	FRANCE	36X			ETHYLENE
1991	EXXON	OWN	N.D. DE GRAVENCHON	FRANCE	MAN 20			
1991	FAUJI FERTILIZER	SNAM PROGETTI	GOTH MACHHI	PAKISTAN	XM	168		HYDROGEN
1991	FAUJI FERTILIZER CO LTD	SNAM PROGETTI	GOTH MACHHI	PAKISTAN	900			HYDROGEN
1991	FINANESTE	STONE & WEBSTER	ANTWERP	BELGIUM	XM			ETHYLENE
1991	FORMOSA PLASTICS	KELLOGG	POINT COMFORT	USA	900B			ETHYLENE
1991	FORMOSA PLASTICS		POINT COMFORT	USA	XTM			ETHYLENE
1991	FOURE LAGADEC	KELLOGG	HOMS	SYRIA	36X/900	322		AMMONIA
1991	GRANDE PARISSIE	ONIA GEGI	TOULOUSE	FRANCE	36X	11		AMMONIA
1991	HEURTEY FOR PETROKEMIA	KELLOGG	AL JUBAIL	SAUDI ARABIA	900B			ETHYLENE
1991	HONAM	TOYO ENGINEERING	YEOCHON	KOREA	900			ETHYLENE
1991	HYDRO	TECHNIP	RAFNES	NORWAY	XM			ETHYLENE
1991	HYDRO AGRI			TRINIDAD	900			HYDROGEN
1991	HYUNDAI PETROCHEMICAL	KELLOGG	DAESAN	KOREA	900B			ETHYLENE
1991	KALA NAFT	FOSTER WHEELER	ESFAHAN	IRAN	900			HYDROGEN
1991	KELLOGG / UTP		GEISMAR	USA	XTM			ETHYLENE
1991	KELLOGG / WESTLAKE		LAKE CHARLES	USA	XTM			ETHYLENE
1991	NAPHTACHIMIE	TECHNIP	LAVERA	FRANCE	XM			ETHYLENE
1991	NESTE	STONE & WEBSTER	PORVOO	FINLAND	XM			ETHYLENE
1991	PASA / ASAP	LURGI	CAMPANA	ARGENTINA	900			HYDROGEN
1991	QUANTUM		DEER PARK	USA	XTM			ETHYLENE
1991	RHONE POULENC		CONDRIEU	FRANCE	MAN 20			
1991	SEMADCO	FOSTER WHEELER	TALKHA	EGYPT	36X	196		AMMONIA
1991	SHELL	LUMMUS	BERRE L'ETANG	FRANCE	XM			ETHYLENE
1991	SHELL			NETHERLANDS	MAN 20			
1991	SHELL		MOERDIJK	NETHERLANDS	MAN 20			
1991	SHELL NEDERLAND	STONE & WEBSTER	MOERDIJK	NETHERLANDS	900B			ETHYLENE
1991	SIMPLOT		POCATELLO	USA	900			HYDROGEN
1991	STATOIL		STENUNGSUND	SWEDEN	36X			ETHYLENE
1991	STATOIL	EXXON	STENUNGSUND	SWEDEN	XM			ETHYLENE
1991	USIBA			BRAZIL	MAN 20			
1991	WESTLAKE	KELLOGG	SULPHUR	USA	900B			ETHYLENE
1991	ARZEW			ALGERIA	HK 40	100		
1991	UNION TEXAS PETROLEUM	KELLOGG	GEISMAR	USA	XTM			ETHYLENE
1992	ACPE		SHEVTCHENKO	RUSSIA	MAN 20			



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**MA NOIR PETROCHEM & NUCLEAR®**

YEAR	COMPANY	DESIGN	LOCATION	COUNTRY	MAIN ALLOY (MANAURITE)	QTY	Unit	PRODUCTION
1965	MEKOG 1	KELLOGG		NETHERLANDS	HK 40	336		
1992	ATOCEM		MARSEILLE	FRANCE	MAN 20			
1992	COPENOR		DUNKIRK	FRANCE	MAN 20			
1992	DOW BENELUX	LUMMUS	TERNEUZEN	NETHERLANDS	XM			ETHYLENE
1992	DOW CHEMICAL	FOSTER WHEELER	FT SASKATCHEWAN	CANADA	XM			ETHYLENE
1992	DOW USA	SELAS	PLAQUEMINE	USA	XM			ETHYLENE
1992	EKA NOBEL	EKA NOBEL	SANTA CRUZ	VENEZUELA	XM	2		HYDROGEN
1992	EKA NOBEL	EKA NOBEL	BOHUS	SWEDEN	XM	2		HYDROGEN
1992	ELF AQUITAINE			FRANCE	MAN 20			
1992	ELF ATOCEM	LUMMUS	CARLING	FRANCE	XM			ETHYLENE
1992	ELF ATOCEM		CARLING	FRANCE	MAN 20			
1992	ELF FRANCE	TECHNIP	FEYZIN	FRANCE	XM			ETHYLENE
1992	ENICHEM	TECHNIP	PRIOLO	ITALY	XM			ETHYLENE
1992	ENICHEM	LUMMUS	PORTO MARGHERA	ITALY	XM			ETHYLENE
1992	ENICHEM	TECHNIP	PRIOLO	ITALY	XM			ETHYLENE
1992	ENICHEM AGRICULTURA	SNAM PROGETTI	FERRARA	ITALY	900			HYDROGEN
1992	EXXON	OWN	N.D. DE GRAVENCHON	FRANCE	XM			ETHYLENE
1992	EXXON	OWN	N.D. DE GRAVENCHON	FRANCE	900B			ETHYLENE
1992	FINA			BELGIUM	MAN 20			
1992	FINANESTE	STONE & WEBSTER	ANTWERP	BELGIUM	XM			ETHYLENE
1992	FINANESTE	STONE & WEBSTER	ANTWERP	BELGIUM	900B			ETHYLENE
1992	FINANESTE	KELLOGG	ANTWERP	BELGIUM	XM			ETHYLENE
1992	FOURE LAGADEC		UFA	RUSSIA	MAN 20			
1992	FOURE LAGADEC		UFA	RUSSIA	900			HYDROGEN
1992	HOWE BAKER / TOTAL PETR.	HOWE BAKER	ARDMORE OK.	USA	900			HYDROGEN
1992	HYDRO RAFNES	TECHNIP	RAFNES	NORWAY	XM			ETHYLENE
1992	I.C.I.			UK	MAN 20			
1992	I.C.I. ENGINEERING	ICI ENG.	WILTON	UK	900			ETHYLENE
1992	I.C.I. ENGINEERING	ICI	WILTON	UK	XM			ETHYLENE
1992	I.P.C.L. (INDIAN PETROCH.)	LUMMUS	GUJARAT	INDIA	900			HYDROGEN
1992	JAGATJIT			INDIA	MAN 20			
1992	JAGATJIT / BINDAL AGRO	HALDOR TOPSOE	SAHAJAHANPUR	INDIA	XM	304		HYDROGEN
1992	JAGATJIT / BINDAL AGRO	HALDOR TOPSOE	SAHAJAHANPUR	INDIA	900			HYDROGEN
1992	K.T.I. / AMOCO	KTI	WHITING IN.	USA	900			HYDROGEN
1992	K.T.I. NETHERLANDS	TECHNIP	SLOVNAFT	SLOVAKIA	XM			ETHYLENE
1992	K.T.I. USA / METOR SA	MHI / KTI	JOSE, ANZOATEGUI	VENEZUELA	900			HYDROGEN
1992	KALA NAFT	FOSTER WHEELER	ESFAHAN	IRAN	900			HYDROGEN
1992	LUCKY / DONGBU CHEM.	LUCKY	ULSAN	KOREA	XM			ETHYLENE
1992	DAIICHI CHEMICAL		YOKKAICHI	JAPAN	36X			ETHYLENE
1992	MITSUBISHI PETR. CO. LTD		LAVERA	FRANCE	XM			ETHYLENE
1992	NAPHTACHIMIE	TECHNIP		FRANCE	XM			ETHYLENE
1992	NESTE PRODUTOS QUIM.	SELAS KIRCHNER	SINES	PORTUGAL	XM			ETHYLENE
1992	O.M.V.	TECHNIP	LINZ	AUSTRIA	XM			ETHYLENE
1992	O.M.V.	KTI	BURGHAUSEN	GERMANY	900			ETHYLENE
1992	OMV			GERMANY	MAN 20			
1992	OXIGENIO DO NORTE	LURGI	ESTARREJA	PORTUGAL	XM	3		HYDROGEN
1992	P.C.S.	STONE & WEBSTER		SINGAPORE	900			ETHYLENE
1992	QAPCO	TECHNIP	MESSAIED	QATAR	XM			ETHYLENE
1992	QAPCO	KTI	MESSAIED	QATAR	900			ETHYLENE
1992	QUANTUM		DEER PARK	USA	XTM			ETHYLENE
1992	QUANTUM		DEER PARK	USA	XTM			ETHYLENE
1992	SEC INDUSTRIES		CHATEAUROUX	FRANCE	MAN 20			
1992	SHELL			NETHERLANDS	MAN 20			
1992	SHELL NEDERLAND	STONE & WEBSTER	MOERDIJK	NETHERLANDS	XM			ETHYLENE
1992	SHELL NEDERLAND	STONE & WEBSTER	MOERDIJK	NETHERLANDS	XM			ETHYLENE
1992	SIDOR	HYL	PUERTO ORDAZ	VENEZUELA	XM			ETHYLENE
1992	SIMPLOT	FOSTER WHEELER	POCATELLO	USA	900			HYDROGEN
1992	SIR ABIDJAN	KTI	ABIDJAN	IVORY COST	900			HYDROGEN
1992	STATOIL	EXXON	STENUNGSUND	SWEDEN	XM			ETHYLENE
1992	STATOIL		STENUNGSUND	SWEDEN	XTM			ETHYLENE
1992	TEXAS EASTMAN	LUMMUS	LONGVIEW	USA	XM			ETHYLENE
1992	ZUARI AGRO CHEMICAL	ICI	Z'NAGAR	INDIA	XM	250		HYDROGEN
1992	OUSA			RUSSIA	HK 40	178		
1992	WESTLAKE	KELLOGG	SULPHUR	USA	25Cr 35Ni Nb			ETHYLENE
1993	CHIYODA ENG. JAPAN	CHIYODA	KAFCO	BANGLADESH	900	1		HYDROGEN
1993	ABB LUMMUS IT. / ZPUC	LUMMUS	HENAN	CHINA	XM			ETHYLENE
1993	ABB LUMMUS NL	LUMMUS	KERTEH	MALAYSIA	XM			ETHYLENE
1993	ABB LUMMUS NL	LUMMUS	KERTEH	MALAYSIA	XTM			ETHYLENE
1993	ABB LUMMUS USA / NPC	LUMMUS	RAYONG	THAILAND	XM			ETHYLENE
1993	ASMIDAL	FOSTER WHEELER	ARZEW	ALGERIA	36X	10		AMMONIA
1993	CHEVRON	LUMMUS	PORT ARTHUR TX	USA	900			HYDROGEN
1993	CHEVRON	LUMMUS	PORT ARTHUR TX	USA	900			HYDROGEN
1993	CHINA NAT. CHEMICAL	UHDE	DALIAN	CHINA	900			HYDROGEN
1993	COPENOR	LUMMUS	DUNKERQUE	FRANCE	XM			ETHYLENE
1993	DOW BENELUX	LUMMUS	TERNEUZEN	NETHERLANDS	XM			ETHYLENE
1993	DOW USA	SELAS	FREEPOR	USA	XM			ETHYLENE
1993	ELF ANTAR	KTI	FEYZIN	FRANCE	900			ETHYLENE
1993	ELF AQUITAINE			FRANCE	MAN 20			
1993	ELF ATOCEM		GONFREVILLE	FRANCE	36X			ETHYLENE
1993	ELF ATOCEM	LUMMUS	CARLING	FRANCE	XM			ETHYLENE



**REFERENCE LIST**  
**MA NOIR PETROCHEM & NUCLEAR®**

YEAR	COMPANY	DESIGN	LOCATION	COUNTRY	MAIN ALLOY (MANAURITE)	QTY	Unit	PRODUCTION
1965	MEKOG 1	KELLOGG		NETHERLANDS	HK 40	336		
1993	ELF ATOCHEM	STONE & WEBSTER	GONFREVILLE	FRANCE	XM			ETHYLENE
1993	ELF ATOCHEM	STONE & WEBSTER	GONFREVILLE	FRANCE	XM			ETHYLENE
1993	ELF ATOCHEM	STONE & WEBSTER	GONFREVILLE	FRANCE	900			ETHYLENE
1993	ELF ATOCHEM		MARSEILLE	FRANCE	MAN 20			
1993	ELF ATOCHEM		GONFREVILLE	FRANCE	MAN 20			
1993	ELF ATOCHEM		CARLING	FRANCE	MAN 20			
1993	ELF ATOCHEM	SELAS	MARSEILLE	FRANCE	900			ETHYLENE
1993	ENICHEM	LUMMUS	PORTO MARGHERA	ITALY	900B			ETHYLENE
1993	ENICHEM	KTI	BRINDISI	ITALY	900B			ETHYLENE
1993	ENICHEM	TECHNIP	BRINDISI	ITALY	XM			ETHYLENE
1993	ENICHEM	TECHNIP	PRIOLO	ITALY	XM			ETHYLENE
1993	ENICHEM	LUMMUS	PORTO MARGHERA	ITALY	XM			ETHYLENE
1993	ENICHEM ANIC	KTI	BRINDISI	ITALY	900			ETHYLENE
1993	ENICHEM AUGUSTA	KTI	AUGUSTA	ITALY	900			HYDROGEN
1993	ENIP SKIKDA	LUMMUS	SKIKDA	ALGERIA	900			HYDROGEN
1993	ESFAHAN	KTI	ESFAHAN	IRAN	36X	1		AMMONIA
1993	ESSO RAFFINAGE		FOS SUR MER	FRANCE	XTM			ETHYLENE
1993	ESSO SAF		FOS SUR MER	FRANCE	XTM			ETHYLENE
1993	EXXON	OWN	N.D. DE GRAVENCHON	FRANCE	MAN 20			
1993	EXXON	OWN	N.D. DE GRAVENCHON	FRANCE	XM			ETHYLENE
1993	EXXON	OWN	N.D. DE GRAVENCHON	FRANCE	900			ETHYLENE
1993	EXXON	OWN	N.D. DE GRAVENCHON	FRANCE	36X			ETHYLENE
1993	EXXON	OWN	N.D. DE GRAVENCHON	FRANCE	900B			ETHYLENE
1993	FINA	HEURTEY	ANTWERP	BELGIUM	900			ETHYLENE
1993	FINANESTE	STONE & WEBSTER	ANTWERP	BELGIUM	XM			ETHYLENE
1993	FINANESTE	STONE & WEBSTER	ANTWERP	BELGIUM	900B			ETHYLENE
1993	FOSTER WHEELER / SHELL	FOSTER WHEELER	WOODRIVER IL.	USA	900			HYDROGEN
1993	FOURE LAGADEC	FOSTER WHEELER	ARZEW	ALGERIA	XM	1		HYDROGEN
1993	HEURTEY / ARAK PETROCH.	DAVY MC KEE	ARAK	IRAN	900			HYDROGEN
1993	HEUTEY / ARAK PETROCH.	DAVY MC KEE	ARAK	IRAN	XM	16		HYDROGEN
1993	HOWE BAKER / CONOCO	HOWE BAKER	BILLING MONTANA	USA	900			HYDROGEN
1993	HYDRO RAFNES	TECHNIP	RAFNES	NORWAY	XM			ETHYLENE
1993	I.C.I.	ICI	KANPUR	INDIA	XM	140		HYDROGEN
1993	IRVING OIL	FOSTER WHEELER	ST JOHN NB	CANADA	900			HYDROGEN
1993	ISAB		PRIOLO	ITALY	MAN 20			
1993	J.G.C.	STONE & WEBSTER	MAOMING	CHINA	XM			ETHYLENE
1993	J.G.C.			CHINA	MAN 20			
1993	L.V.M.			BELGIUM	MAN 20			
1993	LUMMUS USA / NPC	LUMMUS	RAYONG	THAILAND	XTM			ETHYLENE
1993	MEDOIL GERMANY	STONE & WEBSTER	RAS LANUF	LIBYA	XM			ETHYLENE
1993	MITSUMI FRANCE	BABCOCK HITACHI	KASHIMA	JAPAN	XM			ETHYLENE
1993	NAPHTACHIMIE	TECHNIP	LAVERA	FRANCE	XM			ETHYLENE
1993	NAPHTACHIMIE	LUMMUS	LAVERA	FRANCE	XM			ETHYLENE
1993	NAPHTACHIMIE	KTI	LAVERA	FRANCE	900			ETHYLENE
1993	NATIONAL PETROCH. CORP.	LUMMUS	RAYONG	THAILAND	XM			ETHYLENE
1993	NATIONAL PETROCH. CORP.	LUMMUS	RAYONG	THAILAND	900			ETHYLENE
1993	NATIONAL PETROCH. CORP.	LUMMUS	RAYONG	THAILAND	900B			ETHYLENE
1993	NATIONAL PETROCHEM. CORP.	LUMMUS	RAYONG	THAILAND	XTM			ETHYLENE
1993	NESTE OY	STONE & WEBSTER	PORVOO	FINLAND	XM			ETHYLENE
1993	NESTE PRODUTOS QUIMICO		SINES	PORTUGAL	36X			ETHYLENE
1993	NESTE PRODUTOS QUIMICOS	SELAS KIRCHNER	SINES	PORTUGAL	900			ETHYLENE
1993	O.M.V. DEUTSCHLAND	KTI	BURGHAUSEN	GERMANY	900			ETHYLENE
1993	ODESSA	KELLOGG	ODESSA	UKRAINE	XM/900	522		AMMONIA
1993	ORIENT CHEMICAL IND.			KOREA	MAN 20			
1993	OXYCHEM	TECHNIP	LAKE CHARLES	USA	XM			ETHYLENE
1993	P.C.S.	JGC	MERBAU	SINGAPORE	XM			ETHYLENE
1993	P.C.S.			SINGAPORE	MAN 20			
1993	PCK SCHWEDT	CHIYODA	SCHWEDT	GERMANY	900			HYDROGEN
1993	PETROX	LUMMUS	TALCAHUANO	CHILE	900			ETHYLENE
1993	PETROX			CHILE	MAN 20			
1993	QAPCO	TECHNIP	MESSAIED	QATAR	XM			ETHYLENE
1993	RHONE POULENC		ROUSSILLON	FRANCE	MAN 20			
1993	SHELL NEDERLAND	STONE & WEBSTER	MOERDIJK	NETHERLANDS	900B			ETHYLENE
1993	STATOIL		STENUNGSUND	SWEDEN	36X			ETHYLENE
1993	STATOIL	EXXON	STENUNGSUND	SWEDEN	900			ETHYLENE
1993	STATOIL	EXXON	STENUNGSUND	SWEDEN	900B			ETHYLENE
1993	STE NORMANDE DE L'AZOTE	ONIA GEGI	HARFLEUR	FRANCE	XM	42		HYDROGEN
1993	SYNCRUDE CANADA LTD		FORT MCMURRAY	CANADA	XM	456		HYDROGEN
1993	TERNICHIMICA	FOSTER WHEELER	NERA MONTORO	ITALY	900			HYDROGEN
1993	TEXAS EASTMAN	LUMMUS	LONGVIEW	USA	XM			ETHYLENE
1993	TITAN			MALAYSIA	MAN 20			
1993	TITAN			MALAYSIA	MAN 20			
1993	TITAN PETROCHEMICAL	STONE & WEBSTER	PASIR GUDANG / JOHOR	MALAYSIA	XM			ETHYLENE
1993	YUKONG LTD	KELLOGG	ULSAN	KOREA	XM			ETHYLENE
1993	NAPHTACHIMIE	LUMMUS	LAVERA	FRANCE	XM			ETHYLENE
1993	CHIYODA ENG. JAPAN	CHIYODA ENGINEERING	KAFCO	BANGLADESH	XM	72		HYDROGEN
1994	ABB LUMMUS NL	LUMMUS	MAP TA PHUT	THAILAND	XM	209	Catalyst tubes	HYDROGEN
1994	BOREALIS	EXXON	STENUNGSUND	SWEDEN	XM			ETHYLENE



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MA NOIR PETROCHEM & NUCLEAR®

YEAR	COMPANY	DESIGN	LOCATION	COUNTRY	MAIN ALLOY (MANAURITE)	QTY	Unit	PRODUCTION
1965	MEKOG 1	KELLOGG		NETHERLANDS	HK 40	336		
1994	BOREALIS	EXXON	STENUNGSUND	SWEDEN	900			ETHYLENE
1994	CHIYODA ENG. JAPAN	CHIYODA ENGINEERING	KAFCO	BANGLADESH	XM	3		HYDROGEN
1994	COPENE	LUMMUS		BRAZIL	900			ETHYLENE
1994	COPENOR	LUMMUS	DUNKIRK	FRANCE	900			ETHYLENE
1994	COPENOR		DUNKIRK	FRANCE	MAN 20			
1994	COPENOR		DUNKIRK	FRANCE	MAN 20			
1994	DAWOOD HERCULES CHEM.			PAKISTAN	MAN 20			
1994	DOW BENELUX	LUMMUS	TERNEUZEN	NETHERLANDS	XM			ETHYLENE
1994	DOW BENELUX	LUMMUS	TERNEUZEN	NETHERLANDS	XM			ETHYLENE
1994	DOW CHEMICAL CANADA	FOSTER WHEELER	FT SASKATCHEWAN	CANADA	XM			ETHYLENE
1994	DUPERIAL	SELAS	SAN LORENZO	ARGENTINA	XM			ETHYLENE
1994	ELF ATOCHEM	LUMMUS	CARLING	FRANCE	XM			ETHYLENE
1994	ELF ATOCHEM	STONE & WEBSTER	GONFREVILLE	FRANCE	XM			ETHYLENE
1994	ELF ATOCHEM		CARLING	FRANCE	XTM			ETHYLENE
1994	ELF ATOCHEM		GONFREVILLE L'ORCHER	FRANCE	XTM			ETHYLENE
1994	ELF ATOCHEM	LUMMUS	CARLING	FRANCE	900			ETHYLENE
1994	ELF ATOCHEM		CARLING	FRANCE	MAN 20			
1994	ELF ATOCHEM		GONFREVILLE	FRANCE	MAN 20			
1994	ELF FRANCE	TECHNIP	FEYZIN	FRANCE	XM			ETHYLENE
1994	ENICHEM	LUMMUS	PORTO MARGHERA	FRANCE	XM			ETHYLENE
1994	ENICHEM	TECHNIP	PRIOLO	ITALY	XM			ETHYLENE
1994	ENICHEM	TECHNIP	PRIOLO	ITALY	XM			ETHYLENE
1994	ENICHEM	LUMMUS	PORTO MARGHERA	ITALY	XM			ETHYLENE
1994	ENICHEM	KTI	PRIOLO	ITALY	900			HYDROGEN
1994	ENICHEM	KTI	BRINDISI	ITALY	900B			ETHYLENE
1994	ESSO RAFFINAGE		FOS SUR MER	FRANCE	XTM			ETHYLENE
1994	EXXON	OWN	N.D. DE GRAVENCHON	FRANCE	MAN 20			
1994	EXXON	OWN	N.D. DE GRAVENCHON	FRANCE	XM			ETHYLENE
1994	EXXON	OWN	N.D. DE GRAVENCHON	FRANCE	XM			ETHYLENE
1994	EXXON	OWN	N.D. DE GRAVENCHON	FRANCE	36X			ETHYLENE
1994	EXXON	OWN	N.D. DE GRAVENCHON	FRANCE	900			ETHYLENE
1994	EXXON	OWN	N.D. DE GRAVENCHON	FRANCE	900B			ETHYLENE
1994	FERROSTAAL / MAN		PERWAJA	MALAYSIA	XTM	530		DRI
1994	FINA BOREALIS	STONE & WEBSTER	ANTWERP	BELGIUM	XM			ETHYLENE
1994	FINA BOREALIS	STONE & WEBSTER	ANTWERP	BELGIUM	XM			ETHYLENE
1994	FINA BOREALIS	STONE & WEBSTER	ANTWERP	BELGIUM	900B			ETHYLENE
1994	FINA RAFFINADERIJ		ANTWERP	BELGIUM	XM			ETHYLENE
1994	FOSTER WHEELER			IRAN	MAN 20			
1994	GAIL			INDIA	MAN 20			
1994	HAN YANG CHEMICAL CO LTD	LUMMUS		KOREA	900B			ETHYLENE
1994	HYDRO RAFNES		RAFNES	NORWAY	36X			ETHYLENE
1994	HYDRO RAFNES		RAFNES	NORWAY	900			ETHYLENE
1994	I.P.C.L.	LUMMUS	BARODA	INDIA	XM			ETHYLENE
1994	I.P.S. / TOYO	LUMMUS/TOYO	YANGZI	CHINA	XM			ETHYLENE
1994	I.P.S. / T.E.C.	LUMMUS / TOYO ENG.	YANGZI	CHINA	900			ETHYLENE
1994	I.P.S. / T.E.C.	LUMMUS / TOYO ENG.	QILU	CHINA	900			ETHYLENE
1994	I.P.S. / TOYO	LUMMUS/TOYO	QILU	CHINA	XM			ETHYLENE
1994	ISAB	FOSTER WHEELER	PRIOLO	ITALY	XM	6		HYDROGEN
1994	JOHN BROWN / RELIANCE	STONE & WEBSTER	HAZIRA	INDIA	XM			ETHYLENE
1994	JOHN BROWN / RELIANCE	STONE & WEBSTER	HAZIRA	INDIA	900B			ETHYLENE
1994	K.N.P.C.		SHUAIBA	KUWAIT	MAN 20			
1994	K.T.I. NL	TECHNIP	MESSAIDA	QATAR	XM			ETHYLENE
1994	K.T.I. NL	KTI	LA CORUNA	SPAIN	900			HYDROGEN
1994	K.T.I. NL	KTI	PUERTOLLANO	SPAIN	900			HYDROGEN
1994	KELLOGG / UTP	KELLOGG	GEISMAR	USA	900B			ETHYLENE
1994	KELLOGG USA		GEISMAR	USA	XTM			ETHYLENE
1994	L.V.M.			BELGIUM	MAN 20			
1994	MADRAS FERTILIZERS	HALDOR TOPSOE	MADRAS	INDIA	XM	194		HYDROGEN
1994	MITSUBISHI			JAPAN	MAN 20			
1994	MITSUBISHI ENG.	MITSUBISHI	YOKKAICHI	JAPAN	XM			ETHYLENE
1994	MITSUBISHI ENGINEERING		YOKKAICHI	JAPAN	XTM			ETHYLENE
1994	MOBIL OIL CORP. USA	FOSTER WHEELER	BEAUMONT	USA	900			HYDROGEN
1994	NAPHTACHIMIE	TECHNIP	LAVERA	FRANCE	XM			ETHYLENE
1994	NAPHTACHIMIE	TECHNIP	LAVERA	ITALY	XM			ETHYLENE
1994	NAPHTACHIMIE	KTI	LAVERA	FRANCE	900			ETHYLENE
1994	NATIONAL PETROCH. CORP.	LUMMUS	RAYONG	THAILAND	XM			ETHYLENE
1994	NATIONAL PETROCHEM. CORP.		RAYONG	THAILAND	XTM			ETHYLENE
1994	NEFTOCHIM		BURGAS	BULGARIA	36X			ETHYLENE
1994	NESTE PRODUTOS QUIMICO		SINES	PORTUGAL	36X			ETHYLENE
1994	P.C.S.	JGC	MERBAU	SINGAPORE	XM			ETHYLENE
1994	P.C.S.			SINGAPORE	MAN 20			
1994	P.I.C. KUWAIT	HALDOR TOPSOE	AHMADI	KUWAIT	900			HYDROGEN
1994	PCS / PASA		BUENOS AIRES	ARGENTINA	XM			ETHYLENE
1994	PRONOR	DAVY PROCESS TECHN.	CAMACARI	BRAZIL	XM	22		HYDROGEN
1994	PT PUPUK			INDONESIA	MAN 20			
1994	SHELL CHIMIE	LUMMUS	BERRE L'ETANG	FRANCE	XM			ETHYLENE
1994	TITAN			MALAYSIA	MAN 20			
1994	TITAN PETROCHEMICAL	STONE & WEBSTER	PASIR GUDANG / JOHOR	MALAYSIA	XM			ETHYLENE





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**MA NOIR PETROCHEM & NUCLEAR®**

YEAR	COMPANY	DESIGN	LOCATION	COUNTRY	MAIN ALLOY (MANAURITE)	QTY	Unit	PRODUCTION
1965	MEKOG 1	KELLOGG		NETHERLANDS	HK 40	336		
1994	TOSOH JAPAN		YOKKAICHI	JAPAN	36X			ETHYLENE
1994	TOSOH JAPAN		YOKKAICHI	JAPAN	MAN 20			
1994	UNILEVER UK	KTI		PAKISTAN	XM	2		HYDROGEN
1994	UNOCAL USA	HOWE BAKER	WILMINGTON	USA	900			HYDROGEN
1994	WESTLAKE		SULPHUR	USA	XTM			ETHYLENE
1994	WESTLAKE USA	STONE & WEBSTER	PASIR GUDANG / JOHOR	MALAYSIA	XM			ETHYLENE
1994	UNION TEXAS PETROLEUM	KELLOGG	GEISMAR	USA	XTM			ETHYLENE
1995	ABB LUMMUS NL	LUMMUS	KERTEH	MALAYSIA	XM			ETHYLENE
1995	ABB LUMMUS NL	LUMMUS	PERM	RUSSIA	XM	263	Catalyst tubes	HYDROGEN
1995	ASAHI JAPAN		MIZUCHIMA	JAPAN	36X			ETHYLENE
1995	BOREALIS	STONE & WEBSTER	SINES	PORTUGAL	XM			ETHYLENE
1995	BOREALIS	EXXON	STENUNGSUND	SWEDEN	XM			ETHYLENE
1995	COPENOR	LUMMUS	DUNKERQUE	FRANCE	XM			ETHYLENE
1995	D.S.M.	TECHNIP	GELEEN	NETHERLANDS	XM			ETHYLENE
1995	D.S.M.		GELEEN	NETHERLANDS	XTM			ETHYLENE
1995	DEC GERMANY				XM	108		HYDROGEN
1995	DOW BENELUX	LUMMUS	TERNEUZEN	NETHERLANDS	XM			ETHYLENE
1995	DOW CHEMICAL CANADA	FOSTER WHEELER	FT SASKATCHEWAN	CANADA	XM			ETHYLENE
1995	DOW IBERICA	LUMMUS	TARRAGONA	SPAIN	XM			ETHYLENE
1995	ELF ANTAR FRANCE	TECHNIP	FEYZIN	FRANCE	XM			ETHYLENE
1995	ELF ATOCHEM	STONE & WEBSTER	GONFREVILLE	FRANCE	XM			ETHYLENE
1995	ELF ATOCHEM	LUMMUS	CARLING	FRANCE	XM			ETHYLENE
1995	ELF ATOCHEM	STONE & WEBSTER	GONFREVILLE	FRANCE	XM			ETHYLENE
1995	ENICHEM	LUMMUS	PORTO MARGHERA	ITALY	XM			ETHYLENE
1995	ENICHEM	TECHNIP	PRIOLO	ITALY	XM			ETHYLENE
1995	EXXON	OWN	N.D. DE GRAVENCHON	FRANCE	XM			ETHYLENE
1995	EXXON	OWN	ROZENBURG	NETHERLANDS	XM	12		HYDROGEN
1995	FERROSTAAL GERMANY		PERWAJA	MALAYSIA	XM			ETHYLENE
1995	FINA ANTWERP OLEFINS	TECHNIP	ANTWERP	BELGIUM	XM			ETHYLENE
1995	FINA ANTWERP OLEFINS	STONE & WEBSTER	ANTWERP	BELGIUM	900B			ETHYLENE
1995	FINA BOREALIS	SONTE & WEBSTER	ANTWERP	BELGIUM	XM			ETHYLENE
1995	FINA BOREALIS	STONE & WEBSTER	ANTWERP	BELGIUM	900			ETHYLENE
1995	GRANDE PAROISSE	ONIA GEGI	TOULOUSE	FRANCE	XM	2		HYDROGEN
1995	HALDOR TOPSOE / MORAVSKE CH. ZA.	HALDOR TOPSOE	OSTRAVA	CZECH REP.	XM	40		HYDROGEN
1995	I.C.I. UK	ICI	WILTON	UK	XM			ETHYLENE
1995	I.P.C.L.		NAGOTHANE	INDIA	XM			ETHYLENE
1995	I.P.C.L.	LUMMUS	BARODA	INDIA	XM			ETHYLENE
1995	K.T.I. NL	KTI	PUERTOLLANO	SPAIN	XM	76		HYDROGEN
1995	K.T.I. NL	KTI	LA CORUNA	SPAIN	XM	52		HYDROGEN
1995	KTI / QAPCO	TECHNIP	MESSAIED	QATAR	XM			ETHYLENE
1995	KTI NL	TECHNIP	TARRAGONA	SPAIN	XM			ETHYLENE
1995	MITSUBISHI CHEMICAL		KASHIMA	JAPAN	XM			ETHYLENE
1995	MITSUBISHI CHEMICAL		YOKKAICHI	JAPAN	XM			ETHYLENE
1995	MITSUBISHI HEAVY IND.	M.H.I. / KTI	JOSE. ANZOATEGUI	VENEZUELA	36X	330		METHANOL
1995	MITSUBISHI HEAVY IND.	KTI	JOSE / MANZOATEGUI	VENEZUELA	XM	220		HYDROGEN
1995	MITSUBISHI HEAVY IND.	KTI	JOSE / MANZOATEGUI	VENEZUELA	XM	100		HYDROGEN
1995	NAPHTACHIMIE	TECHNIP	LAVERA	FRANCE	XM			ETHYLENE
1995	NAPHTACHIMIE	TECHNIP	LAVERA	FRANCE	XM			ETHYLENE
1995	NAPHTACHIMIE	TECHNIP	LAVERA	FRANCE	XM			ETHYLENE
1995	ODESSA	KELLOGG	ODESSA	UKRAINE	XM/900	522		AMMONIA
1995	PETROL / NAFTA LENDAVA	LURGI	LENDAVA	SLOVENIA	XM	192		HYDROGEN
1995	PETROL / NAFTA LENDAVA		LENDAVA	SLOVENIA	900			HYDROGEN
1995	POLIMERI	TECHNIP	BRINDISI	ITALY	XM			ETHYLENE
1995	REPSOL		PUERTOLLANO	SPAIN	XM			ETHYLENE
1995	S & W USA / BOREALIS	STONE & WEBSTER	SINES	PORTUGAL	XM			ETHYLENE
1995	SAMSUNG KOREA	HALDOR TOPSOE	ULSAN	KOREA	XM	26		HYDROGEN
1995	SELAS FLUID	LINDE	DOW/OYSTER CREEK	USA	XM			ETHYLENE
1995	SHELL	LUMMUS	BERRE L'ETANG	FRANCE	XM			ETHYLENE
1995	SHELL NEDERLAND	STONE & WEBSTER	MOERDIJK	NETHERLANDS	XM			ETHYLENE
1995	T.T.M.C.		POINT LISAS	TRINIDAD & TOBAGO	XM	16		HYDROGEN
1995	TERNI ITALY	FOSTER WHEELER	NERA MONTORO	ITALY	XM	15		HYDROGEN
1995	TOSOH JAPAN		YOKKAICHI	JAPAN	36X			ETHYLENE
1995	WESTLAKE	KELLOGG		USA	MOD HP-MO			ETHYLENE
1996	ABB LUMMUS NL	LUMMUS	ROZENBURG	NETHERLANDS	XM	55	Catalyst tubes	HYDROGEN
1996	ABB LUMMUS NL	LUMMUS	RAYONG	THAILAND	XTM			ETHYLENE
1996	ABB LUMMUS NL / NORSK	LUMMUS	RAFNES	NORWAY	900			ETHYLENE
1996	ABB LUMMUS NL / ROC	LUMMUS	RAYONG	THAILAND	XM			ETHYLENE
1996	ABB LUMMUS NL / SHELL	LUMMUS	BERRE L'ETANG	FRANCE	XM			ETHYLENE
1996	AGRICULTURA / ENICHEM	KTI	FERRARA	ITALY	900			HYDROGEN
1996	COPENE	LUMMUS	CAMACARI	BRAZIL	XM			ETHYLENE
1996	COPENE	LUMMUS		BRAZIL	900			ETHYLENE
1996	DEC GERMANY			INDIA	XM	12		HYDROGEN
1996	DOW BENELUX	LUMMUS	TERNEUZEN	NETHERLANDS	XM			ETHYLENE
1996	DOW CHEMICAL CANADA	FOSTER WHEELER	FT SASKATCHEWAN	CANADA	XM			ETHYLENE
1996	DOW CHEMICAL CANADA		FORT SASKATCHEWAN	CANADA	XTM			ETHYLENE
1996	ELF ATOCHEM	LUMMUS	CARLING	FRANCE	XM			ETHYLENE
1996	ELF ATOCHEM	STONE & WEBSTER	GONFREVILLE	FRANCE	XM			ETHYLENE
1996	ELF ATOCHEM	LUMMUS	CARLING	FRANCE	900			ETHYLENE



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1965	MEKOG 1	KELLOGG		NETHERLANDS	HK 40	336		
1996	ELF FRANCE	TECHNIP	FEYZIN	FRANCE	XM			ETHYLENE
1996	ENICHEM	TECHNIP	PRIOLO	ITALY	XM			ETHYLENE
1996	ENICHEM	LUMMUS	PORTO MARGHERA	ITALY	XM			ETHYLENE
1996	ERG PETROLI		PRIOLO	ITALY	900			ETHYLENE
1996	EXA INT'L / ACRON	KELLOGG	NOVGOROD	RUSSIA	XM/900	504		AMMONIA
1996	EXXON	OWN	N.D. DE GRAVENCHON	FRANCE	XM			ETHYLENE
1996	EXXON	FOSTER WHEELER	ROTTERDAM	NETHERLANDS	XM	32		HYDROGEN
1996	FINA ANTWERP OLEFINS	TECHNIP	ANTWERP	BELGIUM	XM			ETHYLENE
1996	FINA BOREALIS	STONE & WEBSTER	ANTWERP	BELGIUM	900			ETHYLENE
1996	FINA RAFFINADERIJ	KELLOGG	ANTWERP	BELGIUM	XM			ETHYLENE
1996	G.E. PLASTICS	HOWE BAKER	BERGEN OP ZOOM	NETHERLANDS	XM	5		HYDROGEN
1996	I.P.C.L.	LUMMUS	BARODA	INDIA	XM			ETHYLENE
1996	KTI NL / DOW BENELUX	TECHNIP	TERNEUZEN	NETHERLANDS	XM			ETHYLENE
1996	MITSUBISHI PETROCH.		KASHIMA	INDIA	XM			ETHYLENE
1996	MITSUBISHI PETROCH.	MITSUBISHI	MIZUSHIMA	JAPAN	XM			ETHYLENE
1996	NAPHTACHIMIE	TECHNIP	LAVERA	FRANCE	XM			ETHYLENE
1996	NAPHTACHIMIE	TECHNIP	LAVERA	FRANCE	XM			ETHYLENE
1996	NAPHTACHIMIE	KTI	LAVERA	FRANCE	900			ETHYLENE
1996	NEFTOCHIM		BURGAS	BULGARIA	900			ETHYLENE
1996	NORSK HYDRO	LINDE/SELAS KIRCHNER	RAFNES	NORWAY	900			ETHYLENE
1996	P.C.C. UK / RAZI	KELLOGG	BANDAR IMAN KHOMENI	IRAN	XM/900	360		AMMONIA
1996	P.C.C. UK / SHIRAZ	HALDOR TOPSOE	SHIRAZ	IRAN	XM	364		HYDROGEN
1996	PDVSA / PEQUIVEN		EL TABLAZO	VENEZUELA	XM	800		HYDROGEN
1996	POLIMERI	TECHNIP	BRINDISI	ITALY	XM			ETHYLENE
1996	QAPCO	TECHNIP	MESSAIED	QATAR	XM			ETHYLENE
1996	SHELL	LUMMUS	BERRE L'ETANG	FRANCE	XM			ETHYLENE
1996	SHELL	LUMMUS	BERRE L'ETANG	FRANCE	XM			ETHYLENE
1996	SHELL CHIMIE / MONTELL	LUMMUS	BERRE L'ETANG	FRANCE	900B			ETHYLENE
1996	SHRIRAM		KOTA / RAJASTHAM	INDIA	XM	10		HYDROGEN
1996	SOLVALUB RUSSIA	KELLOGG	CHEREPVETS	RUSSIA	XM/900	504		AMMONIA
1996	TERNI ITALY	FOSTER WHEELER	NERA MONTORO	ITALY	XM	15		HYDROGEN
1996	TOTAL RAFFINAGE		ABIDJAN	IVORY COAST	XM	5		HYDROGEN
1996	ACRON		NOVGOROD	RUSSIA	XM	504		AMMONIA
1996	WESTLAKE	KELLOGG	SULPHUR	USA	MOD HP-MO			ETHYLENE
1997	ABB LUMMUS NL	LUMMUS	GELEEN	NETHERLANDS	XM			ETHYLENE
1997	ABB LUMMUS NL	LUMMUS	YANBU	SAUDI ARABIA	XM			ETHYLENE
1997	LUMMUS USA	LUMMUS	YANPET	SAUDI ARABIA	XTM			ETHYLENE
1997	AIR LIQUIDE	LURGI	ESTARREJA	PORTUGAL	XM	21		HYDROGEN
1997	COPENE	LUMMUS	CAMACARI	BRAZIL	XM			ETHYLENE
1997	COPENOR	LUMMUS	DUNKIRK	FRANCE	900			ETHYLENE
1997	DOW BENELUX	LUMMUS	TERNEUZEN	NETHERLANDS	900			ETHYLENE
1997	ELF ATOCHEM	LUMMUS	CARLING	FRANCE	XM			ETHYLENE
1997	ELF ATOCHEM	STONE & WEBSTER	GONFREVILLE	FRANCE	XM			ETHYLENE
1997	ELF ATOCHEM	LUMMUS	CARLING	FRANCE	XM			ETHYLENE
1997	ELF ATOCHEM	STONE & WEBSTER	GONFREVILLE	FRANCE	XM			ETHYLENE
1997	ELF ATOCHEM	STONE & WEBSTER	GONFREVILLE	FRANCE	900			ETHYLENE
1997	ELF ATOCHEM	LUMMUS	CARLING	FRANCE	900			ETHYLENE
1997	ELF FRANCE	KTI	FEYZIN	FRANCE	900			ETHYLENE
1997	ENICHEM	LUMMUS	PORTO MARGHERA	ITALY	XM			ETHYLENE
1997	ENICHEM	LUMMUS	PORTO MARGHERA	ITALY	XM			ETHYLENE
1997	ENICHEM	LUMMUS	PRIOLO	ITALY	XM			ETHYLENE
1997	ENICHEM	LUMMUS	PORTO TORRES	ITALY	XM			ETHYLENE
1997	ERG PETROLI		PRIOLO	ITALY	900			ETHYLENE
1997	EXA INT'L / KUYBISHEVAZOT	KELLOGG	TOGLIATTI	RUSSIA	XM900	504		AMMONIA
1997	FERROSTAAL / MAN		CILEGON	INDONESIA	XTM			DRI
1997	FINA ANTWERP OLEFINS	STONE & WEBSTER	ANTWERP	BELGIUM	XM			ETHYLENE
1997	FINA ANTWERP OLEFINS	STONE & WEBSTER	ANTWERP	BELGIUM	XM			ETHYLENE
1997	FINA ANTWERP OLEFINS	STONE & WEBSTER	ANTWERP	BELGIUM	900			ETHYLENE
1997	FINA RAFFINADERIJ	KELLOGG	ANTWERP	BELGIUM	XM/900			ETHYLENE
1997	FMC FORET	LUMMUS	MADRID	SPAIN	900			ETHYLENE
1997	FORMOSA PLASTICS	LUMMUS	MAI LIAO - YUN LIN	TAIWAN	XM			ETHYLENE
1997	FORMOSA PLASTICS		MAI LIAO - YUN LIN	TAIWAN	XTM			ETHYLENE
1997	FORMOSA PLASTICS		POINT COMFORT	USA	XTM			ETHYLENE
1997	GRANDE PAROISSE	ONIA GEGI	GRANDPUITS	FRANCE	XM	36		HYDROGEN
1997	HEURTEY PETROCHEM	DAVY / HYL	AL JUBAIL	SAUDI ARABIA	XM ETHYL	212		DRI
1997	HEURTEY PETROCHEM / HADEED	DAVY MC KEE	AL JUBAIL	SAUDI ARABIA	900			HYDROGEN
1997	HEURTEY PETROCHEM FRANCE		AL JUBAIL	SAUDI ARABIA	XTM			DRI
1997	HIP TRADE	FOSTER WHEELER	PANCEVO	CROATIA	900			HYDROGEN
1997	HOWE BAKER /AIR LIQUIDE	HALDOR TOPSOE	BERGEN OP ZOOM	NETHERLANDS	XM	120		HYDROGEN
1997	I.C.I. AUSTRALIA	SELAS	MATRAVILE	AUSTRALIA	XM			ETHYLENE
1997	I.C.I. UK	ICI	WILTON	UK	XM			ETHYLENE
1997	MEDOIL GERMANY	STONE & WEBSTER	RAS LANUF	LIBYA	900			ETHYLENE
1997	MITSUBISHI CHEMICAL	MITSUBISHI	MIZUSHIMA	JAPAN	XM			ETHYLENE
1997	NAPHTACHIMIE	TECHNIP	LAVERA	FRANCE	XM			ETHYLENE
1997	NAPHTACHIMIE	TECHNIP	LAVERA	FRANCE	XM			ETHYLENE
1997	NAPHTACHIMIE	KTI	LAVERA	FRANCE	900			ETHYLENE
1997	NORSK HYDRO	LINDE/SELAS KIRCHNER	RAFNES	NORWAY	900			ETHYLENE
1997	O.M.V.	TECHNIP	BURGHAUSEN	GERMANY	XM			ETHYLENE



**REFERENCE LIST**  
**MA NOIR PETROCHEM & NUCLEAR®**

YEAR	COMPANY	DESIGN	LOCATION	COUNTRY	MAIN ALLOY (MANAURITE)	QTY	Unit	PRODUCTION
1965	MEKOG 1		KELLOGG	NETHERLANDS	HK 40	336		
1997	PETROKEMIJA KUTINA		KUTINA	CROATIA	900			HYDROGEN
1997	POLIMERI	TECHNIP	BRINDISI	ITALY	XM			ETHYLENE
1997	POLIMERI	TECHNIP	BRINDISI	ITALY	XM			ETHYLENE
1997	PT KRAKATAU STEEL		CILEGON	INDONESIA	XTM	68		DRI
1997	QAPCO	TECHNIP	MESSAIED	QATAR	XM			ETHYLENE
1997	QATAR PETROCHEMICAL	KTI	MESSAIED	QATAR	900			ETHYLENE
1997	SHELL	LUMMUS	BERRER L'ETANG	FRANCE	XM			ETHYLENE
1997	SHELL AUBETTE / MONTELL	LUMMUS	BERRER L'ETANG	FRANCE	900			ETHYLENE
1997	THE DOW CHEMICAL COMPANY		FREEPORT	USA	XTM			ETHYLENE
1997	UMM AL JAWABY UK	STONE & WEBSTER	RAS LANUF	LIBYA	XM			ETHYLENE
1997	UMM ALJAWABY UK	SNAM / H. TOPSOE	MARSA EL BRAGA	LIBYA	900			HYDROGEN
1997	FORMOSA PLASTICS	KELLOGG	POINT COMFORT	USA	XTM			ETHYLENE
1997	PT KRAKATAU STEEL		CILEGON	INDONESIA	XTM	380		DRI
1998	ABOCOL COLOMBIA		CARTEGENE	COLOMBIA	XM	52		HYDROGEN
1998	ACCIAI SPECIALI		TERNI	ITALY	MAN 20			
1998	AMERYA PETROL REF.		ALEXANDRIA	EGYPT	MAN 20			
1998	BORN CANADA / CHEVRON	HALDOR TOPSOE	EL SEGUNDO	USA	XM	201		HYDROGEN
1998	CELIT	KELLOGG	GORLOVSKA	RUSSIA	XM	5		AMMONIA
1998	CONDEA AUGUSTA	KTI	AUGUSTA	ITALY	XM	2		HYDROGEN
1998	COPENE	LUMMUS	CAMACARI	BRAZIL	XM			ETHYLENE
1998	COPENOR	LUMMUS	DUNKERQUE	FRANCE	XM			ETHYLENE
1998	COPENOR	LUMMUS	DUNKIRK	FRANCE	900			ETHYLENE
1998	D.S.M.		GELEEN	NETHERLANDS	900			ETHYLENE
1998	DOW BENELUX	LUMMUS	TERNEUZEN	NETHERLANDS	XM			ETHYLENE
1998	DOW BENELUX	LUMMUS	TERNEUZEN	NETHERLANDS	900			ETHYLENE
1998	DOW IBERICA	TECHNIP	TARRAGONA	SPAIN	XM			ETHYLENE
1998	ELF AQUITAINE		LACQ	FRANCE	XM			ETHYLENE
1998	ELF AQUITAINE		LACQ	FRANCE	MAN 20			
1998	ELF ATOCHEM	LUMMUS	CARLING	FRANCE	XM			ETHYLENE
1998	ELF ATOCHEM	STONE & WEBSTER	GONFREVILLE	FRANCE	XM			ETHYLENE
1998	ELF ATOCHEM	LUMMUS	CARLING	FRANCE	900			ETHYLENE
1998	ELF ATOCHEM	STONE & WEBSTER	GONFREVILLE	FRANCE	900			ETHYLENE
1998	ELF ATOCHEM		CARLING	FRANCE	MAN 20			
1998	ELF ATOCHEM		GONFREVILLE	FRANCE	MAN 20			
1998	ELF ATOCHEM	STONE & WEBSTER	GONFREVILLE	FRANCE	900B			ETHYLENE
1998	ELF FRANCE	TECHNIP	FEYZIN	FRANCE	XM			ETHYLENE
1998	ELF FRANCE	KTI	FEYZIN	FRANCE	900			ETHYLENE
1998	EMSB MALAYSIA		KERTEH	MALAYSIA	XTM			ETHYLENE
1998	ENICHEM	LUMMUS	PORTO MARGHERA	ITALY	XM			ETHYLENE
1998	ENICHEM	TECHNIP	PRIOLO	ITALY	XM			ETHYLENE
1998	ENICHEM		PORTO MARGHERA	ITALY	XTM			ETHYLENE
1998	ENICHEM		GELA	ITALY	MAN 20			
1998	ENIP		SKIKDA	ALGERIA	MAN 20			
1998	EXA INT'L / NOVOMOSKOVSK	KELLOGG	NOVOMOSKOVSK	RUSSIA	900			AMMONIA
1998	FINA ANTWERP OLEFINS	STONE & WEBSTER	ANTWERP	BELGIUM	900			ETHYLENE
1998	FINA RAFFINADERIJ		ANTWERP	BELGIUM	XM			ETHYLENE
1998	GRANDE PAROISSE	ONIA GEGI	GRANDPUITS	FRANCE	900			HYDROGEN
1998	HALDOR TOPSOE / FORMOSA PET.	HALDOR TOPSOE	MA LI LAO	TAIWAN	XM	858		HYDROGEN
1998	HANWHA CHEMICAL CORP.		SEOUL	KOREA	900B			ETHYLENE
1998	HEURTEY PETROCHEM / ARAK		AL JUBAIL	SAUDI ARABIA	900			HYDROGEN
1998	HIP TRADE	FOSTER WHEELER	PANCEVO	CROATIA	900			HYDROGEN
1998	I.C.I. ARGENTINA	SELAS	SAN LORENZO	ARGENTINA	XM			ETHYLENE
1998	I.P.C.L.		BARODA	INDIA	XM			ETHYLENE
1998	INDIAN FARMERS (IFFCO)	KELLOGG	PHULPUR	INDIA	900			AMMONIA
1998	ISPAT MEXICO		LAZARO CARDENAS	MEXICO	XTM	80		DRI
1998	KAWASAKI HEAVY IND. JAP. / IDEMITSU	KELLOGG	TOKUYAMA	JAPAN	900			ETHYLENE
1998	KVAERNER HEURTEY FCE		TOULOUSE	FRANCE	MAN 20			
1998	KVAERNER HEURTEY FCE		BUCAREST	ROMANIA	MAN 20			
1998	KVAERNER HEURTEY FCE		AL JUBAIL	SAUDI ARABIA	MAN 20			
1998	L.V.M. BELGIUM		TESSENDERLO	BELGIUM	900			ETHYLENE
1998	MANNESMAN KTI DEMAG / ENICHEM	TECHNIP	BRINDISI	ITALY	XM			ETHYLENE
1998	MANNESMAN KTI DEMAG / QAPCO	TECHNIP	MESSAIED	QATAR	XM			ETHYLENE
1998	MANNESMAN KTI DEMAG / GRANDE	KTI	TOULOUSE	FRANCE	XM	24		HYDROGEN
1998	MANNESMANN KTI DEMAG IT. / POLIMERI	TECHNIP	BRINDISI	ITALY	XM			ETHYLENE
1998	MANNESMANN KTI DEMAG IT. / CONDEA	KTI	AUGUSTA	ITALY	900			HYDROGEN
1998	MANNESMANN KTI DEMAG NL /	TECHNIP	AL JUBAIL	SAUDI ARABIA	XM			ETHYLENE
1998	MANNESMANN KTI DEMAG NL / DOW	TECHNIP	TERNEUZEN	NETHERLANDS	XM			ETHYLENE
1998	MEDOIL GERMANY	STONE & WEBSTER	RAS LANUF	LIBYA	XM			ETHYLENE
1998	MEDOIL GERMANY	STONE & WEBSTER	RAS LANUF	LIBYA	900			ETHYLENE
1998	NAPHTACHIMIE	TECHNIP	LAVERA	FRANCE	XM			ETHYLENE
1998	NAPHTACHIMIE	KTI	LAVERA	FRANCE	900			ETHYLENE
1998	NEFTOCHIM BULGARIA		BURGAS	BULGARY	XM			ETHYLENE
1998	NORSK HYDRO	LINDE/SELAS KIRCHNER	RAFNES	NORWAY	900			ETHYLENE
1998	NORSK HYDRO		RAFNES	NORWAY	XM			ETHYLENE
1998	O.M.V.	TECHNIP	BURGHAUSEN	GERMANY	XM			ETHYLENE
1998	O.M.V. DEUTSCHLAND	KTI	BURGHAUSEN	GERMANY	900			ETHYLENE
1998	ORICA PLASTICS AUST.	SELAS	MATRAVILLE	AUSTRALIA	XM			ETHYLENE
1998	P.C.C. UK / RAZI	KELLOGG	BANDAR IMAN KHOMENI	IRAN	XM/900	360		AMMONIA



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MA NOIR PETROCHEM & NUCLEAR®

YEAR	COMPANY	DESIGN	LOCATION	COUNTRY	MAIN ALLOY (MANAUROITE)	QTY	Unit	PRODUCTION
1965	MEKOG 1		KELLOGG	NETHERLANDS	HK 40	336		
1998	PETROKEMYA		AL-SINAIYAH	SAUDI ARABIA	900			ETHYLENE
1998	PETROX	LUMMUS	CONCEPCION	CHILI	XM			ETHYLENE
1998	PETROX		CONCEPTION	CHILE	MAN 20			
1998	POLIMERI	TECHNIP	BRINDISI	ITALY	XM			ETHYLENE
1998	POLIMERI EUROPA BRINDISI	KTI	BRINDISI	ITALY	900B			ETHYLENE
1998	QAPCO	TECHNIP	MESSAIED	QATAR	XM			ETHYLENE
1998	RELIANCE	STONE & WEBSTER	HAZARI	INDIA	XM			ETHYLENE
1998	RELIANCE	STONE & WEBSTER	HAZIRA	INDIA	900B			ETHYLENE
1998	SAMSUNG KOREA	HALDOR TOPSOE	ULSAN	KOREA	XM	10		HYDROGEN
1998	SHELL	LUMMUS	BERRE L'ETANG	FRANCE	XM			ETHYLENE
1998	SHELL	LUMMUS	BERRE L'ETANG	FRANCE	XM			ETHYLENE
1998	SHELL AUBETTE / MONTELL	LUMMUS	BERRE L'ETANG	FRANCE	900			ETHYLENE
1998	SIDOBRE SINNOVA		BOUSSENS	FRANCE	900			HYDROGEN
1998	SIDOR	HYL	PUERTO ORDAZ	VENEZUELA	XM			ETHYLENE
1998	STE NORMANDE DE L'AZOTE	ONIA GEGI	HARFLEUR	FRANCE	XM	98		HYDROGEN
1998	STE NORMANDE DE L'AZOTE	ONIA GEGI	HARFLEUR	FRANCE	900			ETHYLENE
1998	TOTAL RAFFINAGE		ABIDJAN	IVORY COAST	XM	45		HYDROGEN
1998	UMM ALJAWABY UK	STONE & WEBSTER	RAS LANUF	LIBYA	900			ETHYLENE
1998	VIKRAM ISPAT INDIA		MAHARASTRA	INDIA	XTM			DRI
1998	WESTLAKE		SULPHUR	USA	XTM			ETHYLENE
1998	WESTLAKE		FORT SASKATCHEWAN	CANADA	XTM			ETHYLENE
1998	GORLOVKA			UKRAINE	XM	9		AMMONIA
1999	ABB LUMMUS USA / SAMSUNG / KOREA	LUMMUS	ONSAN	KOREA	XM			ETHYLENE
1999	ABB LUMMUS USA / SAMSUNG / KOREA	LUMMUS	ONSAN	KOREA	XTM			ETHYLENE
1999	ABB LUMMUS USA / SAMSUNG / KOREA	LUMMUS	ONSAN	KOREA	900B			ETHYLENE
1999	ACRON	KELLOGG	NOVGOROD	RUSSIA	XM/900	12		AMMONIA
1999	AIR LIQUIDE		CATANIA	ITALY	36X	4		HYDROGEN
1999	AIR LIQUIDE	KTI	CATANIA	ITALY	XM	4		HYDROGEN
1999	BASF CORPORATION	LUMMUS	PORT ARTHUR	USA	XM			ETHYLENE
1999	BASF CORPORATION		PORT ARTHUR	USA	XTM			ETHYLENE
1999	BEHSHAHR		TEHRAN	IRAN	XM	31		HYDROGEN
1999	BEHSHAHR		TEHRAN	IRAN	XM	31		HYDROGEN
1999	CONDEA AUGUSTA	KTI	AUGUSTA	ITALY	XM	3		HYDROGEN
1999	CONDEA AUGUSTA		AUGUSTA	ITALY	XM	4		HYDROGEN
1999	CONDEA AUGUSTA	KTI	AUGUSTA	ITALY	900			HYDROGEN
1999	CONDEA AUGUSTA			ITALY	900			HYDROGEN
1999	COPENOR		DUNKIRK	FRANCE	36X			ETHYLENE
1999	COPENOR	TECHNIP	DUNKERQUE	FRANCE	XM			ETHYLENE
1999	COPENOR	KTI	DUNKIRK	FRANCE	900B			ETHYLENE
1999	COPENOR	LUMMUS	DUNKERQUE	FRANCE	XM			ETHYLENE
1999	CORNING INC.			USA	XTM			ETHYLENE
1999	DOW BENELUX	LUMMUS	TERNEUZEN	NETHERLANDS	XM			ETHYLENE
1999	DOW BENELUX	LUMMUS	TERNEUZEN	NETHERLANDS	XM			ETHYLENE
1999	DOW BENELUX	LUMMUS	TERNEUZEN	NETHERLANDS	900			ETHYLENE
1999	DOW IBERICA	TECHNIP	TARRAGONA	SPAIN	XM			ETHYLENE
1999	DOW IBERICA	TECHNIP	TARRAGONA	SPAIN	XM			ETHYLENE
1999	E.M.S.B.	LUMMUS	KERTEH	MALAYSIA	XM			ETHYLENE
1999	E.M.S.B.	LUMMUS	KERTEH	MALAYSIA	XM			ETHYLENE
1999	ELF ANTAR	KTI	FEYZIN	FRANCE	900			ETHYLENE
1999	ELF ANTAR	KTI	FEYZIN	FRANCE	900			ETHYLENE
1999	ELF ANTAR FRANCE	TECHNIP	FEYZIN	FRANCE	XM			ETHYLENE
1999	ELF ANTAR FRANCE	TECHNIP	FEYZIN	FRANCE	XM			ETHYLENE
1999	ELF ANTAR FRANCE		FEYZIN	FRANCE	XTM			ETHYLENE
1999	ELF ATOCHEM	LUMMUS	CARLING	FRANCE	XM			ETHYLENE
1999	ELF ATOCHEM	STONE & WEBSTER	GONFREVILLE	FRANCE	XM			ETHYLENE
1999	ELF ATOCHEM	LUMMUS	CARLING	FRANCE	900			ETHYLENE
1999	ELF ATOCHEM		CARLING	FRANCE	MAN 20			
1999	ELF ATOCHEM		GONFREVILLE	FRANCE	MAN 20			
1999	ELF ATOCHEM	LUMMUS	CARLING	FRANCE	XM			ETHYLENE
1999	ELF ATOCHEM	LUMMUS	CARLING	FRANCE	900			ETHYLENE
1999	ENICHEM	LUMMUS	PORTO MARGHERA	ITALY	XM			ETHYLENE
1999	ENICHEM	TECHNIP	PRIOLO	ITALY	XM			ETHYLENE
1999	ENICHEM	LUMMUS	PORTO MARGHERA	ITALY	XM			ETHYLENE
1999	ENICHEM	TECHNIP	PRIOLO	ITALY	XM			ETHYLENE
1999	ENICHEM	KTI	PRIOLO	ITALY	900			ETHYLENE
1999	ESSO RAFFINAGE		FOS SUR MER	FRANCE	XTM			ETHYLENE
1999	ESSO SAF		N. D. DE GRAVENCHON	FRANCE	XTM			ETHYLENE
1999	FORMOSA PLASTICS		POINT COMFORT	USA	XTM			ETHYLENE
1999	HANWHA CHEMICAL CORP.	STONE & WEBSTER	SEOUL	KOREA	900B			ETHYLENE
1999	HYDRO AGRI / S.N.A. FRANCE	ONIA GEGI	HARFLEUR	FRANCE	900			HYDROGEN
1999	HYDRO AGRI / S.N.A. FRANCE	ONIA GEGI	HARFLEUR	FRANCE	900B REF			HYDROGEN
1999	ISU CHEMICAL		ULSAN	KOREA	36X	39		AMMONIA
1999	ISU CHEMICAL		ULSAN	KOREA	900			HYDROGEN
1999	KIROVOCHPETSCK	KELLOGG	KIROVOCHPETSCK	RUSSIA	XM/900	504		AMMONIA
1999	KVAERNER HEURTEY FRANCE		AL JUBAIL	SAUDI ARABIA	XTM			DRI
1999	MITSUBIHI CHEM. CORP.		KASHIMA	JAPAN	XM			ETHYLENE
1999	MITSUBISHI CHEMICAL CORP.		KASHIMA	JAPAN	XTM			ETHYLENE
1999	MITSUBISHI CHEMICAL CORP.	LUMMUS	KASHIMA	JAPAN	900B			ETHYLENE



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MA NOIR PETROCHEM & NUCLEAR®

YEAR	COMPANY	DESIGN	LOCATION	COUNTRY	MAIN ALLOY (MANAURITE)	QTY	Unit	PRODUCTION
1965	MEKOG 1		KELLOGG	NETHERLANDS	HK 40	336		
1999	MITSUBISHI CHEMICAL CORP.		LUMMUS	MIZUSHIMA	JAPAN	900B		ETHYLENE
1999	N.P.C.		LUMMUS	RAYONG	THAILAND	XM		ETHYLENE
1999	N.P.C.			RAYONG	THAILAND	XTM		ETHYLENE
1999	NAPHTACHIMIE		LUMMUS	LAVERA	FRANCE	XM		ETHYLENE
1999	NAPHTACHIMIE		LUMMUS	LAVERA	FRANCE	XM		ETHYLENE
1999	NAPHTACHIMIE			LAVERA	FRANCE	XTM		ETHYLENE
1999	NAPHTACHIMIE		LUMMUS	LAVERA	FRANCE	900		ETHYLENE
1999	NAPHTACHIMIE		KTI	LAVERA	FRANCE	900		ETHYLENE
1999	NAPHTACHIMIE		LUMMUS	LAVERA	FRANCE	900		ETHYLENE
1999	NAPHTACHIMIE		LUMMUS	LAVERA	FRANCE	900B		ETHYLENE
1999	NOVOTEX			UFA	RUSSIA	XM		ETHYLENE
1999	NOVOTEX			UFA	RUSSIA	XTM		ETHYLENE
1999	O.M.V.			BURGHAUSEN	GERMANY	36X		ETHYLENE
1999	O.M.V.		TECHNIP	BURGHAUSEN	GERMANY	XM		ETHYLENE
1999	P.C.S.			SINGAPORE	SINGAPORE	XTM		ETHYLENE
1999	PETROKEMIIJA		KELLOGG	KUTINA	CROATIA	XM/900	520	AMMONIA
1999	POLIMERI EUROPA		TECHNIP	BRINDISI	ITALY	XM		ETHYLENE
1999	POLIMERI EUROPA		TECHNIP	BRINDISI	ITALY	XM		ETHYLENE
1999	PT PUPUK SRIWIDJAJA		KELLOGG	PALEMBANG	INDONESIA	900		AMMONIA
1999	PUSRI			PALEMBANG	INDONESIA	35K		
1999	QATAR PETROCHEMICAL		KTI	MESSAIED	QATAR	900		ETHYLENE
1999	RAYONG OLEFINS CO LTD		LUMMUS	MAPTA PHUT	THAILAND	XM		ETHYLENE
1999	RAYONG OLEFINS CO LTD		LUMMUS	MAPTA PHUT	THAILAND	XM		ETHYLENE
1999	S.N.P.E.		KTI	TOULOUSE	FRANCE	900		HYDROGEN
1999	SELAS LINDE		LINDE	CHALAMPE	FRANCE	900		HYDROGEN
1999	SELAS LINDE		LINDE	CHALAMPE	FRANCE	XM	78	HYDROGEN
1999	SHELL		LUMMUS	BERRE L'ETANG	FRANCE	XM		ETHYLENE
1999	SHELL NL		STONE & WEBSTER	MOERDIJK	NETHERLANDS	900		ETHYLENE
1999	SIDOBRE SINNOVA		KTI	BOUSSENS	FRANCE	XM	10	HYDROGEN
1999	SIDOBRE SINNOVA		KTI	BOUSSENS	FRANCE	XM	10	HYDROGEN
1999	SNAM PROGETTI ITALY		DAVY MC KEE	JOSE A. ANZOATEGUI	VENEZUELA	XM	600	HYDROGEN
1999	SOL SPA			MONZA	ITALY	XM	3	HYDROGEN
1999	SURFACE ENGINEERED PRODUCTS			SULPHUR	USA	XTM		ETHYLENE
1999	TECHNIP BENELUX		TECHNIP	MESSAIED	QATAR	XM		ETHYLENE
1999	TECHNIP USA		BRAUN & ROOT	MESSAIED	QATAR	XM		ETHYLENE
1999	TOTAL RAFFINADERIJ				NETHERLANDS	XM	25	HYDROGEN
1999	VALVECO / ENAR PETROTECH.			KARACHI	PAKISTAN	XM		ETHYLENE
1999	WESTLAKE			SULPHUR	USA	XTM		ETHYLENE
1999	ZUARI AGRO CHEMICAL			GOA	INDIA	XM	25	HYDROGEN
1999	ZUARI INDUSTRIES LTD		ICI	Z'NAGAR	INDIA	XM	10	HYDROGEN
2000	5 P ENGINEERING				ITALY	36X	20	AMMONIA
2000	LUMMUS USA		LUMMUS	HONAM	KOREA	XM		ETHYLENE
2000	LUMMUS USA		LUMMUS	HONAM	KOREA	XTM		ETHYLENE
2000	LUMMUS USA		LUMMUS	HONAM	KOREA	XTM		ETHYLENE
2000	LUMMUS USA		LUMMUS	HONAM	KOREA	900		ETHYLENE
2000	ABB LUMMUS USA / SAMSUNG / KOREA		LUMMUS	ONSAN	KOREA	900B		ETHYLENE
2000	AGIP PETROLI			CECCANO	ITALY	XM	2	HYDROGEN
2000	ARABIAN PETROCHEMICAL		LUMMUS	AL JUBAIL	SAUDI ARABIA	XM		ETHYLENE
2000	ATOFINA		LUMMUS	CARLING	FRANCE	XM		ETHYLENE
2000	ATOFINA		LUMMUS	GONFREVILLE	FRANCE	XM		ETHYLENE
2000	ATOFINA		LUMMUS	CARLING	FRANCE	900		ETHYLENE
2000	ATOFINA GRANDE PAROISSE		ONIA GEGI	TOULOUSE	FRANCE	XM	66	HYDROGEN
2000	ATOFINA GRANDE PAROISSE		ONIA GEGI	TOULOUSE	FRANCE	900		HYDROGEN
2000	AXSIA HOWMAR UK / AIR LIQUIDE			PONT DE CLAIX	FRANCE	XM	34	HYDROGEN
2000	BOC				KOREA	XM	7	HYDROGEN
2000	BOUSTEAD INT. HEATERS UK				SAUDI ARABIA	35K		
2000	BP LAVERA			LAVERA	FRANCE	MAN 20		
2000	BP LAVERA			LAVERA	FRANCE	MAN 20		
2000	COGNIS		KTI	BOUSSENS	FRANCE	XM	2	HYDROGEN
2000	COPENE		LUMMUS	CAMACARI	BRAZIL	XM		ETHYLENE
2000	COPENE		LUMMUS	CAMACARI	BRAZIL	900		ETHYLENE
2000	COPENE			CAMACARI	BRAZIL	XTM		ETHYLENE
2000	COPENOR			DUNKIRK	FRANCE	36X		ETHYLENE
2000	COPENOR		TECHNIP	DUNKERQUE	FRANCE	XM		ETHYLENE
2000	COPENOR		KTI	DUNKIRK	FRANCE	900		ETHYLENE
2000	COPENOR			DUNKIRK	FRANCE	MAN 20		
2000	DOW CHEMICAL		LUMMUS	TERNEUZEN	NETHERLANDS	XM		ETHYLENE
2000	ELEME PETROCHEMICALS		KELLOGG		NIGERIA	XM		ETHYLENE
2000	ELF ANTAR FRANCE			FEYZIN	FRANCE	XTM		ETHYLENE
2000	ELF ATOCHEM			GONFREVILLE	FRANCE	36X		ETHYLENE
2000	ELF ATOCHEM		LUMMUS	CARLING	FRANCE	XM		ETHYLENE
2000	ELF ATOCHEM		STONE & WEBSTER	GONFREVILLE	FRANCE	XM		ETHYLENE
2000	ELF ATOCHEM		STONE & WEBSTER	GONFREVILLE	FRANCE	900		ETHYLENE
2000	ELF ATOCHEM			CARLING	FRANCE	MAN 20		
2000	ELF ATOCHEM			GONFREVILLE	FRANCE	MAN 20		
2000	ENICHEM		LUMMUS	PORTO MARGHERA	ITALY	XM		ETHYLENE
2000	ENICHEM		TECHNIP	PRIOLO	ITALY	XM		ETHYLENE
2000	ENICHEM		LUMMUS	GELA	ITALY	XM		ETHYLENE



**REFERENCE LIST**  
**MA NOIR PETROCHEM & NUCLEAR®**

YEAR	COMPANY	DESIGN	LOCATION	COUNTRY	MAIN ALLOY (MANAURITE)	QTY	Unit	PRODUCTION
1965	MEKOG 1	KELLOGG		NETHERLANDS	HK 40	336		
2000	ENICHEM	LUMMUS	PORTO MARGHERA	ITALY	XM			ETHYLENE
2000	ENICHEM	LUMMUS	PORTO TORRES	ITALY	XM			ETHYLENE
2000	ENICHEM	LUMMUS	PRIOLO	ITALY	XM			ETHYLENE
2000	ENICHEM	KTI	PRIOLO	ITALY	900			ETHYLENE
2000	ENICHEM	LUMMUS	PORTO MARGHERA	ITALY	900B			ETHYLENE
2000	ENICHEM	LUMMUS	PORTO TORRES	ITALY	MAN 20			ETHYLENE
2000	ENICHEM	KTI	PRIOLO	ITALY	900			ETHYLENE
2000	EQUISTAR	LUMMUS	CLINTON	USA	XM			ETHYLENE
2000	EQUISTAR	LUMMUS	CHANNELVIEW	USA	XM			ETHYLENE
2000	EQUISTAR	LUMMUS	CHANNELVIEW	USA	XTM			ETHYLENE
2000	EQUISTAR	LUMMUS	CHANNELVIEW	USA	900			ETHYLENE
2000	EQUISTAR	LUMMUS	CHOCOLATE BAYOU	USA	900			ETHYLENE
2000	EQUISTAR	LUMMUS	CHANNELVIEW	USA	MAN 20			ETHYLENE
2000	EQUISTAR	LUMMUS	MORRIS	USA	MAN 20			ETHYLENE
2000	EQUISTAR	LUMMUS	CHOCOLATE BAYOU	USA	3525_5W			ETHYLENE
2000	ESSO SAF	EXXON	N.D. DE GRAVENCHON	FRANCE	XM			ETHYLENE
2000	EXXON	OWN	N.D. DE GRAVENCHON	FRANCE	900B			ETHYLENE
2000	FOSTER WHEELER ITALY	FOSTER WHEELER	ISLA REFINERY	CURACAO	XM	78		HYDROGEN
2000	FOSTER WHEELER ITALY	FOSTER WHEELER	ISLA REFINERY	CURACAO	900			HYDROGEN
2000	GRANDE PAROISSE	ONIA GEGI	TOULOUSE	FRANCE	XM	80		HYDROGEN
2010	HALDOR TOPSOE DENMARK	HALDOR TOPSOE	YPF	ARGENTINA	XM	49		HYDROGEN
2010	HALDOR TOPSOE DENMARK	HALDOR TOPSOE	SCHEKINOAZOT	RUSSIA	XM	62		HYDROGEN
2008	HALDOR TOPSOE DENMARK	HALDOR TOPSOE	NISHNEKAMSK	TATARSTAN	XM	111		HYDROGEN
2000	HANWHA CHEMICAL CORP.			KOREA	900B			ETHYLENE
2000	HYDRO POLYMERS		RAFNES	NORWAY	XM			ETHYLENE
2000	HYUNDAI PETROCHEMICAL			KOREA	36X	7		
2000	K.T.I. ITALY	KTI	ICS	IRAN	XM	1		HYDROGEN
2000	K.T.I. ITALY	KTI	THESSALONIKY	GREECE	XM	30		HYDROGEN
2000	KTI ITALY	KTI	THESSALONIKI	GREECE	900			HYDROGEN
2000	KVAERNER HEURTEY FCE	HALDOR TOPSOE	HOLBORN	GERMANY	900			HYDROGEN
2000	KVAERNER HEURTEY France	HALDOR TOPSOE	HOLBORN	GERMANY	XM	56		HYDROGEN
2000	L.V.M.			BELGIUM	MAN 20			
2000	L.V.M. BELGIUM			BELGIUM	900 VMC			
2000	LURGI OEL GERMANY	LURGI	YPF METHANOL	ARGENTINA	XM	416		HYDROGEN
2000	MC JUNKIN CORP.		RICHMOND	USA	36X	10		HYDROGEN
2000	METAFRAX	KELLOGG	GUBAHA	RUSSIA	XM/900	340		AMMONIA
2000	METAFRAX	KELLOGG	GUBAHA	RUSSIA	XM/900	340		AMMONIA
2000	METOR	KTI	JOSE	VENEZUELA	XM	4		HYDROGEN
2000	NAPHTACHIMIE	LUMMUS	LAVERA	FRANCE	XM			ETHYLENE
2000	NAPHTACHIMIE	LUMMUS	LAVERA	FRANCE	XM			ETHYLENE
2000	NAPHTACHIMIE	LUMMUS	LAVERA	FRANCE	XM			ETHYLENE
2000	NAPHTACHIMIE	LUMMUS	LAVERA	FRANCE	900			ETHYLENE
2000	NAPHTACHIMIE	LUMMUS	LAVERA	FRANCE	900			ETHYLENE
2000	NAPHTACHIMIE	LUMMUS	LAVERA	FRANCE	900B			ETHYLENE
2000	NATIONAL PETROCH. CORP.	LUMMUS	RAYONG	THAILAND	900			ETHYLENE
2000	NATIONAL PETROCH. CORP.	LUMMUS	RAYONG	THAILAND	900B			ETHYLENE
2000	NISSEKI PETROCHEMICAL CORP.		KANAGANA	JAPAN	XTM			ETHYLENE
2000	NISSEKI PETROCHEMICAL CORP.		KANAGANA	JAPAN	XTM			ETHYLENE
2000	NORSK HYDRO	LUMMUS	RAFNES	NORWAY	900			ETHYLENE
2000	NOVOTEX	OWN	UFA	RUSSIA	XM			ETHYLENE
2000	P.C.C. UK / RAZI	KELLOGG	BANDAR IMAN KHOMENI	IRAN	XM	13		AMMONIA
2000	P.C.C. UK / SHIRAZ	HALDOR TOPSOE	SHIRAZ	IRAN	XM	108		HYDROGEN
2000	P.C.S.			SINGAPORE	XTM			ETHYLENE
2000	PEC RHIN	UHDE	OTTMARSHEIM	FRANCE	XM	200		HYDROGEN
2000	PETROKEMJA	KELLOGG	KUTINA	CROATIA	XM	4		AMMONIA
2000	POLIMERI EUROPA	TECHNIP	BRINDISI	ITALY	XM			ETHYLENE
2000	POLIMERI EUROPA	TECHNIP	BRINDISI	ITALY	XM			ETHYLENE
2000	POLIMERI EUROPA BRINDISI	KTI	BRINDISI	ITALY	900B			ETHYLENE
2000	RASHTRYA CHEM. FERT.		MUMBAI	INDIA	XM	40		HYDROGEN
2000	RHODIA BELLE ETOILE	KTI	BELLE ETOILE	FRANCE	XM	65		HYDROGEN
2000	RIVOIRA			ITALY	MAN 20			
2000	SELAS LINDE	LINDE	ELENAC	GERMANY	900			ETHYLENE
2000	SHELL CHIMIE	LUMMUS	BERRE L'ETANG	FRANCE	XM			ETHYLENE
2000	SHELL CHIMIE	LUMMUS	BERRE L'ETANG	FRANCE	XM			ETHYLENE
2000	SHELL NEDERLAND	STONE & WEBSTER	MOERDIJK	NETHERLANDS	XM			ETHYLENE
2000	SIDERURGICA DE ORINOCO	HYL	MATANZAS	VENEZUELA	900B DRI			
2000	SPS CO. USA	HALDOR TOPSOE	ULSAN	KOREA	XM	15		HYDROGEN
2000	STRAYLIGHT	KELLOGG		NIGERIA	XM			ETHYLENE
2000	SURFACE ENGINEERED PRODUCTS		FORT SASKATCHEWAN	CANADA	XTM			ETHYLENE
2000	TECHNIP BENELUX	KTI	DIGBOI	INDIA	900			HYDROGEN
2000	TECHNIP BENELUX / IOCL	KTI	DIGBOI	INDIA	XM	28	Catalyst tubes	HYDROGEN
2000	TOMSK METHANOL	DAVY Mc Kee	TOMSK	RUSSIA	XM	868		HYDROGEN
2000	TOTAL OUTRE-MER	KTI	ABIDJAN	IVORY COAST	XM	21		HYDROGEN
2000	ULTRAFERTIL		PIACAGUERA	BRAZIL	XM	65		HYDROGEN
2000	WESTLAKE	LUMMUS	SULPHUR	USA	900			ETHYLENE
2000	ELEME PETROCHEMICALS	KELLOGG		NIGERIA	XM			ETHYLENE
2000	STRAYLIGHT	KELLOGG		NIGERIA	XM			ETHYLENE
2001	ARABIAN PETROCHEMICAL	KELLOGG	AL JUBAIL	SAUDI ARABIA	900			ETHYLENE



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**MA NOIR PETROCHEM & NUCLEAR®**

YEAR	COMPANY	DESIGN	LOCATION	COUNTRY	MAIN ALLOY (MANAURITE)	QTY	Unit	PRODUCTION
1965	MEKOG 1	KELLOGG		NETHERLANDS	HK 40	336		
2001	ATOFINA	LUMMUS	CARLING	FRANCE	XM			ETHYLENE
2001	ATOFINA	LUMMUS	GONFREVILLE	FRANCE	XM			ETHYLENE
2001	ATOFINA	LUMMUS	CARLING	FRANCE	900			ETHYLENE
2001	BOC GASES		ULSAN	KOREA	XM	20		HYDROGEN
2001	BOREALIS	LUMMUS	POORVOO	FINLAND	36X	10		ETHYLENE
2001	BOREALIS	STONE & WEBSTER	SINES	PORTUGAL	XM			ETHYLENE
2001	BOREALIS	LUMMUS	POORVOO	FINLAND	XM			ETHYLENE
2001	BOREALIS		POORVOO	FINLAND	XTM			ETHYLENE
2001	BOREALIS	LUMMUS	POORVOO	FINLAND	900			ETHYLENE
2001	COPENOR		DUNKIRK	FRANCE	36X			ETHYLENE
2001	COPENOR	TECHNIP	DUNKERQUE	FRANCE	XM			ETHYLENE
2001	COPENOR	LUMMUS	DUNKIRK	FRANCE	900B			ETHYLENE
2001	DOW BENELUX	TECHNIP	TERNEUZEN	NETHERLANDS	XTM			ETHYLENE
2001	ECOPETROL			COLUMBIA	MAN 20			
2001	ELF ANTAR FRANCE	TECHNIP	FEYZIN	FRANCE	XM			ETHYLENE
2001	ELF ATOCHEM		GONFREVILLE	FRANCE	36X			ETHYLENE
2001	ENICHEM	LUMMUS	PORTO MARGHERA	ITALY	XM			ETHYLENE
2001	ENICHEM	LUMMUS	PORTO TORRES	ITALY	XM			ETHYLENE
2001	ENICHEM	LUMMUS	PRIOLO	ITALY	XM			ETHYLENE
2001	ENICHEM	LUMMUS	PORTO MARGHERA	ITALY	900B			ETHYLENE
2001	ESSO		PORT JEROME	FRANCE	XTM			ETHYLENE
2001	FOSTER WHEELER ITALY	KTI	ISLA REFINERY	CURACAO	XM	4		HYDROGEN
2008	HALDOR TOPSOE DENMARK	HALDOR TOPSOE	CHEVRON	CANADA	XM	19		HYDROGEN
2001	ICI ARGENTINA	SELAS	SAN LORENZO	ARGENTINA	XM			ETHYLENE
2001	ISOPOL		CAMACARI	BRAZIL	XM	4		HYDROGEN
2001	ISPAT MEXICO		LAZARO CARDENAS	MEXICO	XTM			DRI
2001	KALA NAFT			IRAN	XM	70		HYDROGEN
2001	KALA NAFT			IRAN	2424NB	170		
2001	KTI	KTI	HOUSTON/TORRANCE	USA	XM	300		HYDROGEN
2001	KVAERNER HEURTEY FCE		SALAWAT	RUSSIA	MAN 20			
2001	KVAERNER HEURTEY France		SALAVAT	RUSSIA	XM			ETHYLENE
2001	LINDE AG	LINDE/SELAS KIRCHNER	MARUN	IRAN	900			ETHYLENE
2001	MARUZEN		CHIBA	JAPAN	36X			ETHYLENE
2001	MARUZEN		CHIBA	JAPAN	XM			ETHYLENE
2001	MARUZEN PETROCHEMICAL		CHIBA	JAPAN	XTM			ETHYLENE
2001	MITSUBISHI CHEMICAL	LUMMUS	KASHIMA	JAPAN	XM			ETHYLENE
2001	MOBIL OIL		N.D. GRAVENCHON	FRANCE	MAN 20			
2001	NAPHTACHIMIE	LUMMUS	LAVERA	FRANCE	XM			ETHYLENE
2001	NAPHTACHIMIE	LUMMUS	LAVERA	FRANCE	XM			ETHYLENE
2001	NAPHTACHIMIE	LUMMUS	LAVERA	FRANCE	XM			ETHYLENE
2001	NAPHTACHIMIE	LUMMUS	LAVERA	FRANCE	900			ETHYLENE
2001	NORETYL	LUMMUS	RAFNES	NORWAY	900			ETHYLENE
2001	O.M.V.	SELAS	BURGHAUSEN	GERMANY	XM			ETHYLENE
2001	OMV	SELAS	BURGHAUSEN	GERMANY	900			ETHYLENE
2001	PETKIM	STONE & WEBSTER	IZMIR	TURKEY	36X	10		ETHYLENE
2001	PETKIM		IZMIR	TURKEY	MAN 20			
2001	POLIMERI EUROPA	TECHNIP	BRINDISI	ITALY	XM			ETHYLENE
2001	POLIMERI EUROPA BRINDISI	KTI	BRINDISI	ITALY	900B			ETHYLENE
2001	PT PUPUK	KELLOGG	KUJANG	INDONESIA	900			AMMONIA
2001	PT PUPUK	KELLOGG	SRIWIDJAJA	INDONESIA	XM/900	112		AMMONIA
2001	PT PUPUK	KELLOGG	SRIWIDJAJA	INDONESIA	XM/900	123		AMMONIA
2001	RAYONG OLEFINS CO LTD	LUMMUS	MAPTA PHUT	THAILAND	XM			ETHYLENE
2001	RAYONG OLEFINS CO.		MAPTA PHUT	THAILAND	XTM			ETHYLENE
2001	RELIANCE	STONE & WEBSTER	HAZIRA	INDIA	MAN 20			ETHYLENE
2001	RELIANCE	STONE & WEBSTER	HAZIRA	INDIA	XM			ETHYLENE
2001	SAINT GOBAIN	KTI		FRANCE	900			HYDROGEN
2001	SAMSUNG EVERLAND/KPIC	LUMMUS	ONSAN	KOREA	XM			ETHYLENE
2001	SAMSUNG EVERLAND/KPIC	LUMMUS	ONSAN	KOREA	900B			ETHYLENE
2001	SASOL			ITALY	XM	18		HYDROGEN
2001	SHELL CHEMICAL	STONE & WEBSTER	MOERDIJK	NETHERLANDS	900			ETHYLENE
2001	SHELL CHEMICAL	STONE & WEBSTER	MOERDIJK	NETHERLANDS	900B			ETHYLENE
2001	SHELL CHIMIE	LUMMUS	BERRE L'ETANG	FRANCE	XM			ETHYLENE
2001	SHELL CHIMIE	LUMMUS	BERRE L'ETANG	FRANCE	900			ETHYLENE
2001	SHELL NEDERLAND	STONE & WEBSTER	MOERDIJK	NETHERLANDS	XM			ETHYLENE
2001	SIAD Spa			ITALY	20			
2001	SIMM		PORTO TORRES	ITALY	900			ETHYLENE
2001	SIMM / ENICHEM		PORTO TORRES	ITALY	XM			ETHYLENE
2001	ST GOBAIN		CHANTEREINES	FRANCE	20			
2001	SURFACE ENGINEERED PRODUCTS		POINT COMFORT	USA	XTM			ETHYLENE
2001	TECHNIP BENELUX / REPSOL	TECHNIP	TARRAGONA	SPAIN	XM			ETHYLENE
2001	TECHNIP USA	KTI	FORT MCMURRAY	CANADA	XM	624	Catalyst tubes	HYDROGEN
2001	TECHNIP USA	KTI	FORT Mc MURRAY	CANADA	900			HYDROGEN
2001	TITAN PETROCHEMICAL	STONE & WEBSTER	PASIR GUDANG / JOHOR	MALAYSIA	XM			ETHYLENE
2001	TOTAL OUTRE-MER	KTI	ABIDJAN	IVORY COAST	XM	155		HYDROGEN
2001	TOTAL OUTRE-MER	KTI	ABIDJAN	IVORY COST	900			HYDROGEN
2001	TOTAL PETROCHEMICALS	FINA ELF	DONGES	FRANCE	XM			ETHYLENE
2001	TOTALFINAELF		DONGES	FRANCE	XM	2		HYDROGEN
2001	TVK	SELAS	TISZAUJAROS	HUNGARY	XM			ETHYLENE



**REFERENCE LIST**  
MA NOIR PETROCHEM & NUCLEAR®

YEAR	COMPANY	DESIGN	LOCATION	COUNTRY	MAIN ALLOY (MANAURITE)	QTY	Unit	PRODUCTION
1965	MEKOG 1		KELLOGG	NETHERLANDS	HK 40	336		
2001	TVK		TISZAUJVAROS	HUNGARY	XTM			ETHYLENE
2001	TVK	SELAS	TIZJAUVAROS	HUNGARY	900			ETHYLENE
2001	WESTLAKE	LUMMUS	SULPHUR	USA	900			ETHYLENE
2001	WESTLAKE		SULPHUR	USA	XTM			ETHYLENE
2002	ABB LUMMUS NL	LUMMUS	PLOCK	POLAND	XM			ETHYLENE
2002	ABB LUMMUS NL / PKN	LUMMUS	PLOCK	POLAND	XTM			ETHYLENE
2002	ABB LUMMUS NL / SECCO	LUMMUS	SHANGHAI	CHINA	XTM			ETHYLENE
2002	ABB LUMMUS USA / SECCO	LUMMUS	SHANGAI	CHINA	XM			ETHYLENE
2002	AIR LIQUIDE	HALDOR TOPSOE	ESTARREJA	PORTUGAL	XM	24		HYDROGEN
2002	AIR LIQUIDE INDUSTRIE BV	HALDOR TOPSOE	ROZENBURG	NETHERLANDS	XM	50		HYDROGEN
2002	ATOFINA	LUMMUS	CARLING	FRANCE	XM			ETHYLENE
2002	ATOFINA	LUMMUS	GONFREVILLE	FRANCE	XM			ETHYLENE
2002	ATOFINA	LUMMUS	LAVERA	FRANCE	XM			ETHYLENE
2002	ATOFINA		CARLING	FRANCE	XTM			ETHYLENE
2002	ATOFINA		GONFREVILLE L'ORCHER	FRANCE	XTM			ETHYLENE
2002	BASF	SELAS	ANTWERP	BELGIUM	XM			ETHYLENE
2002	BASF		ANTWERP	BELGIUM	XTM			ETHYLENE
2002	BEHSHAHR			IRAN	XM			ETHYLENE
2002	BOREALIS	STONE & WEBSTER	SINES	PORTUGAL	XM			ETHYLENE
2002	CERINOX			SPAIN	XM			ETHYLENE
2002	COPENOR	LUMMUS	DUNKERQUE	FRANCE	XM			ETHYLENE
2002	DOW BENELUX	LUMMUS	TERNEUZEN	NETHERLANDS	XM			ETHYLENE
2002	DOW BENELUX	TECHNIP	TERNEUZEN	NETHERLANDS	XTM			ETHYLENE
2002	E.M.S.B.	LUMMUS	KERTEH	MALAYSIA	XM			ETHYLENE
2002	ELF ANTAR FRANCE	TECHNIP	FEYZIN	FRANCE	XM			ETHYLENE
2002	EMSB MALAYSIA		KERTEH	MALAYSIA	XTM			ETHYLENE
2002	FORMOSA PLASTICS	LUMMUS	MAI LIAO - YUN LIN	TAIWAN	XM			ETHYLENE
2002	FORMOSA PLASTICS	LUMMUS	MAI LIAO - YUN LIN	TAIWAN	XM			ETHYLENE
2002	FORMOSA PLASTICS		MAI LIAO - YUN LIN	TAIWAN	XTM			ETHYLENE
2002	FORMOSA PLASTICS		POINT COMFORT	USA	XTM			ETHYLENE
2002	FORTUM	STONE & WEBSTER	PORVOO	FINLAND	XM			ETHYLENE
2007	HALDOR TOPSOE DENMARK	HALDOR TOPSOE	CEPSA - ALGERICAS	SPAIN	XM	37		HYDROGEN
2002	HONAM PETROCHEMICAL		YOSU	KOREA	XM			ETHYLENE
2002	HONAM PETROCHEMICAL		YOSU	KOREA	XTM			ETHYLENE
2002	HUNTSMAN PETROCHEMICAL	STONE & WEBSTER		UK	XM			ETHYLENE
2002	HYUNDAI OIL BANK CO LTD	HALDOR TOPSOE		KOREA	XM	270		HYDROGEN
2002	I.C.I. ARGENTINA		SAN LORENZO	ARGENTINA	XM			ETHYLENE
2002	INTEROLEFIN / UFA		UFA	RUSSIA	XM			ETHYLENE
2002	ISOPOLPRODUTOS QUIMICOS	DAVY MC KEE		BRAZIL	XM	20		HYDROGEN
2002	LARSEN & TOUBRO LTD	HALDOR TOPSOE	IOCL PANIPAT	INDIA	XM	480		HYDROGEN
2002	LURGI OEL GERMANY	LURGI	GORLICE	POLAND	XM	26		HYDROGEN
2002	MITSUBISHI CHEMICAL	LUMMUS	MIZUSHIMA	JAPAN	XM			ETHYLENE
2002	MITSUBISHI CHEMICAL	LUMMUS	KASHIMA	JAPAN	XM			ETHYLENE
2002	MITSUBISHI CHEMICAL CORP.		KASHIMA	JAPAN	XTM			ETHYLENE
2002	PETROQUIMICA RIO TERCERO	KTI		ARGENTINA	XM	19		HYDROGEN
2002	POLIMERI EUROPA	TECHNIP	BRINDISI	ITALY	XM			ETHYLENE
2002	POLIMERI EUROPA	LUMMUS	PORTO MARGHERA	ITALY	XM			ETHYLENE
2002	POLIMERI EUROPA	LUMMUS	PRIOLO	ITALY	XM			ETHYLENE
2002	POLIMERI EUROPA	LUMMUS	PRIOLO	ITALY	XM			ETHYLENE
2002	SABIC SERVICES / PETROKEMYA		AL JUBAIL	SAUDI ARABIA	XTM			ETHYLENE
2002	SABIC SERVICES / PETROKEMYA	LUMMUS	AL JUBAIL	SAUDI ARABIA	XM			ETHYLENE
2002	SAT LINDE FRANCE	SELAS	BANDAR IMAM	IRAN	XM			ETHYLENE
2002	SELAS LINDE	LINDE	OMV / BURGHAUSEN	GERMANY	XM			ETHYLENE
2002	SELAS LINDE	LINDE	OMV / BURGHAUSEN	GERMANY	XTM			ETHYLENE
2002	SHELL NEDERLAND	STONE & WEBSTER	MOERDIJK	NETHERLANDS	XM			ETHYLENE
2002	SHELL PETROCHIMIE MEDITERRANEE	LUMMUS	BERRE L'ETANG	FRANCE	XM			ETHYLENE
2002	SURFACE ENGINEERED PRODUCTS		POINT COMFORT	USA	XTM			ETHYLENE
2002	TECHNIP BENELUX	KTI	IOCL DIGBOI	INDIA	XM	3	Catalyst tubes	HYDROGEN
2002	TECHNIP BENELUX	KTI	OMV SCHWECHAT	AUSTRIA	XM	96	Catalyst tubes	HYDROGEN
2002	TECHNIP BENELUX / PETROKEMYA	KTI	AL JUBAIL	SAUDI ARABIA	XTM			ETHYLENE
2002	TECHNIP BENELUX / REPSOL	TECHNIP / TECHNIP	TARRAGONA	SPAIN	XM			ETHYLENE
2002	TECHNIP BENELUX / REPSOL		TARRAGONA	SPAIN	XTM			ETHYLENE
2002	TECHNIP ITALY	HALDOR TOPSOE	PHU MY FERTILIZER	PETROVIETNAM	XM	180	Catalyst tubes	HYDROGEN
2002	TECHNIP ITALY	KTI	SIAD OSIO SOPRA	ITALY	XM	8	Catalyst tubes	HYDROGEN
2002	TOTAL FINA ELF		DONGES	FRANCE	XTM			HYDROGEN
2002	TVK	SELAS	TISZAUJVAROS	HUNGARY	XM			ETHYLENE
2002	TVK		TISZAUJVAROS	HUNGARY	XTM			ETHYLENE
2002	WESTLAKE		SULPHUR	USA	XTM			ETHYLENE
2003	ABB LUMMUS NL	LUMMUS	SIDPEC	EGYPT	XM			ETHYLENE
2003	ABB LUMMUS NL	LUMMUS	SALAVAT	RUSSIA	XM			ETHYLENE
2003	ABB LUMMUS NL	LUMMUS	SALAVAT	RUSSIA	XTM			ETHYLENE
2003	ABB LUMMUS NL / SIDPEC	LUMMUS	AMERYA	EGYPT	XTM			ETHYLENE
2003	ABOCOL COLOMBIA	KTI		COLOMBIA	XM	5		HYDROGEN
2003	AIR LIQUIDE	HALDOR TOPSOE	MAP THA PUT	THAILAND	XM	5		HYDROGEN
2003	AIR LIQUIDE INDUSTRIE BV	HALDOR TOPSOE	BERGEN OP ZOOM	NETHERLANDS	XM	120		HYDROGEN
2003	ATOFINA	LUMMUS	CARLING	FRANCE	XM			ETHYLENE
2003	ATOFINA	LUMMUS	GONFREVILLE	FRANCE	XM			ETHYLENE
2003	ATOFINA	LUMMUS	LAVERA	FRANCE	XM			ETHYLENE





**REFERENCE LIST**  
**MA NOIR PETROCHEM & NUCLEAR®**

YEAR	COMPANY	DESIGN	LOCATION	COUNTRY	MAIN ALLOY (MANAURITE)	QTY	Unit	PRODUCTION
1965	MEKOG 1	KELLOGG		NETHERLANDS	HK 40	336		
2003	ATOFINA		CARLING	FRANCE	XTM			ETHYLENE
2003	BHP BILLITON		PORT HEDLAND	AUSTRALIA	XTM	88		DRI
2003	CERINOX			SPAIN	XM			ETHYLENE
2003	DEUTSCHE BP AG		KOLN	GERMANY	XM			ETHYLENE
2003	DONGBU HANNONG		ULSAN	KOREA	XM			ETHYLENE
2003	DOW BENELUX	LUMMUS	TERNEUZEN	NETHERLANDS	XM			ETHYLENE
2003	DOW BENELUX	TECHNIP	TERNEUZEN	NETHERLANDS	XTM			ETHYLENE
2003	E.M.S.B.	LUMMUS	KERTEH	MALAYSIA	XM			ETHYLENE
2003	ENIP (STE NATIONALE DE LA	UHDE	ARZEW	ALGERIA	XM	160		HYDROGEN
2003	FINA ANTWERP OLEFINS		ANTWERP	BELGIUM	XM			ETHYLENE
2003	FORMOSA PLASTICS		POINT COMFORT	USA	XTM			ETHYLENE
2003	FORMOSA PLASTICS		POINT COMFORT	USA	XTM			ETHYLENE
2003	FOURE LAGADEC / SHELL		REICHSSTETT	FRANCE	XTM			ETHYLENE
2006	HALDOR TOPSOE DENMARK	HALDOR TOPSOE	KUIBYSHEV - SAMARA	RUSSIA	XM	19		HYDROGEN
2003	HOWE BAKER /AIR LIQUIDE	HALDOR TOPSOE	CHEVRON EL SEGUNDO	USA	XM	250		HYDROGEN
2003	INTRACHEM GERMANY / BIPC	LUMMUS	BANDAR IMAM	IRAN	XM			ETHYLENE
2003	INTRACHEM GERMANY / BIPC	LUMMUS	BANDAR IMAM	IRAN	XM			ETHYLENE
2003	INTRACHEM GERMANY / BIPC		BANDAR IMAM	IRAN	XTM			ETHYLENE
2003	INTRACHEM GERMANY / BIPC		BANDAR IMAM	IRAN	XTM			ETHYLENE
2003	KBR-TECHNP / Q-CHEM	BRAUN & ROOT	MESSAIED	QATAR	XM			ETHYLENE
2003	mitsui ENGINEERING / PETKIM	STONE & WEBSTER	ALIAGA	TURKEY	XM			ETHYLENE
2003	mitsui ENGINEERING / PETKIM		ALIAGA	TURKEY	XTM			ETHYLENE
2003	PETKIM	STONE & WEBSTER	ALIAGA	TURKEY	XM			ETHYLENE
2003	POLIMERI EUROPA	TECHNIP / TECHNIP	BRINDISI	ITALY	XM			ETHYLENE
2003	POLIMERI EUROPA	LUMMUS	DUNKERQUE	FRANCE	XM			ETHYLENE
2003	POLIMERI EUROPA	LUMMUS	GELA	ITALY	XM			ETHYLENE
2003	POLIMERI EUROPA	LUMMUS	PORTO MARGHERA	ITALY	XM			ETHYLENE
2003	POLIMERI EUROPA	LUMMUS	PRIOLO	ITALY	XM			ETHYLENE
2003	QENOS			AUSTRALIA	XM			ETHYLENE
2003	RAYONG OLEFINS CO LTD	LUMMUS	MAPTA PHUT	THAILAND	XM			ETHYLENE
2003	RAYONG OLEFINS CO.		MAPTA PHUT	THAILAND	XTM			ETHYLENE
2003	REPSOL	TECHNIP / TECHNIP	TARRAGONA	SPAIN	XM			ETHYLENE
2003	REPSOL		TARRAGONA	SPAIN	XTM			ETHYLENE
2003	SABIC SERVICES / PETROKEMYA		AL JUBAIL	SAUDI ARABIA	XTM			ETHYLENE
2003	SABIC SERVICES / PETROKEMYA	LUMMUS	AL JUBAIL	SAUDI ARABIA	XM			ETHYLENE
2003	SAMSUNG / ATOFINA	LUMMUS	DAESAN	KOREA	XM			ETHYLENE
2003	SELAS LINDE	LINDE	OMV / SWECHAT	AUSTRIA	XM			ETHYLENE
2003	SHELL NEDERLAND	STONE & WEBSTER	MOERDIJK	NETHERLANDS	XM			ETHYLENE
2003	SHELL PETROCHIMIE MEDITERRANEE	LUMMUS	BERRE L'ETANG	FRANCE	XM			ETHYLENE
2003	SNAM PROGETTI (SP-TKP FERTILIZER)	HALDOR TOPSOE	OMIFCO OMAN	OMAN	XM	528		HYDROGEN
2003	TECHNIP BENELUX	KTI	BASF-YPC / NANJING	CHINA	XM	176	Catalyst tubes	HYDROGEN
2003	TECHNIP ITALY	KTI	ERDEMIR STOCK	TURKEY	XM	5	Catalyst tubes	HYDROGEN
2003	TOTAL FRANCE		FEYZIN	FRANCE	XTM			ETHYLENE
2003	TOTAL PETROCHEMICALS	TECHNIP / TECHNIP	FEYZIN	FRANCE	XM			ETHYLENE
2003	TOTAL RAFFINADERIJ		ANTWERP	BELGIUM	XM			ETHYLENE
2003	TVK	SELAS	TISZAUJVAROS	HUNGARY	XM			ETHYLENE
2003	TVK		TISZAUJVAROS	HUNGARY	XTM			ETHYLENE
2003	ULTRAFERTIL	FOSTER WHEELER		BRAZIL	XM	60		HYDROGEN
2003	WESTLAKE		SULPHUR	USA	XTM			ETHYLENE
2004	ATOFINA		CARLING	FRANCE	XTM			ETHYLENE
2004	E.M.S.B.	LUMMUS	KERTEH	MALAYSIA	XM			ETHYLENE
2004	EMSB MALAYSIA		KERTEH	MALAYSIA	XTM			ETHYLENE
2004	HYUNDAI			KOREA	XM			ETHYLENE
2004	POLIMERI EUROPA	TECHNIP / TECHNIP	BRINDISI	ITALY	XM			ETHYLENE
2004	POLIMERI EUROPA	LUMMUS	PORTO MARGHERA	ITALY	XM	184		ETHYLENE
2004	POLIMERI EUROPA	LUMMUS	PRIOLO	ITALY	XM			ETHYLENE
2004	SABIC SERVICES / PETROKEMYA	LUMMUS	AL JUBAIL	SAUDI ARABIA	XM			ETHYLENE
2004	SAT LINDE FRANCE	SELAS	SAN SALVO	ITALY	XM			ETHYLENE
2004	SHELL PETROCHIMIE MEDITERRANEE	LUMMUS	BERRE L'ETANG	FRANCE	XM			ETHYLENE
2004	SURFACE ENGINEERED PRODUCTS		EDMONDON	CANADA	40 X	1		ETHYLENE
2004	TECHNIP USA	KTI	PORT ARTHUR	USA	XM	368	Catalyst tubes	HYDROGEN
2004	TITAN PETROCHEMICALS		PASIR GUGANG	MALAYSIA	40 X	62		ETHYLENE
2004	TOTAL PETROCHEMICALS	TECHNIP / TECHNIP	FEYZIN	FRANCE	XM			ETHYLENE
2004	WESTLAKE	KELLOGG	SULPHUR	USA	XTM			ETHYLENE
2004	WILLIAMS	KELLOGG		USA	XTM			ETHYLENE
2004	FORMOSA PLASTICS	KELLOGG	POINT COMFORT	USA	XTM			ETHYLENE
2004	POLIMERI		BRINDISI	ITALY	XM			ETHYLENE
2004	VIKRAM ISPAT INDIA			INDIA	XTM			DRI
2004	AIR LIQUIDE		JOUY EN JOSAS	FRANCE	XM			HYDROGEN
2005	ABADAN PETROCHEMICAL			IRAN	900			HYDROGEN
2005	ABB LUMMUS NL	LUMMUS		TAIWAN	XM	5	Catalyst tubes	HYDROGEN
2005	LUMMUS USA	LUMMUS	SHANGAI	CHINA	XM			ETHYLENE
2005	AIR LIQUIDE	HALDOR TOPSOE	JOUY EN JOSAS	FRANCE	XM	1		HYDROGEN
2005	AIR LIQUIDE		JOUY EN JOSAS	France	XOR			HYDROGEN
2005	AIR LIQUIDE	samples	JOUY EN JOSAS	France	40XO			HYDROGEN
2005	AIR LIQUIDE INDUSTRIE BV	HALDOR TOPSOE	ROZENBURG	NETHERLANDS	XM	50		HYDROGEN
2005	ARAK PETROCHEMICAL			IRAN	XM			ETHYLENE
2005	ARAK PETROCHEMICAL			IRAN	XTM			ETHYLENE



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**MA NOIR PETROCHEM & NUCLEAR®**

YEAR	COMPANY	DESIGN	LOCATION	COUNTRY	MAIN ALLOY (MANAUROITE)	QTY	Unit	PRODUCTION
1965	MEKOG 1	KELLOGG		NETHERLANDS	HK 40	336		
2005	ARKEMA	LUMMUS	LAVERA	FRANCE	XM			ETHYLENE
2005	ARKEMA	LUMMUS	LAVERA	FRANCE	900			ETHYLENE
2005	BASELL		WESSELING	GERMANY	XM			ETHYLENE
2005	BASELL	LINDE	WESSELING	GERMANY	900			ETHYLENE
2005	BOREALIS	LUMMUS	POORVOO	FINLAND	XM			ETHYLENE
2005	BOREALIS	STONE & WEBSTER	STENUNGSUND	SWEDEN	XM	2 (test tubes)		ETHYLENE
2005	CERINOX			SPAIN	XM			ETHYLENE
2005	CHYIODA		TOKYO	JAPAN	XOR			HYDROGEN
2005	DOW BENELUX	TECHNIP	TERNEUZEN	NETHERLANDS	XM			ETHYLENE
2005	DOW BENELUX	TECHNIP	TERNEUZEN	NETHERLANDS	XTM			ETHYLENE
2005	DOW BENELUX	KTI	TERNEUZEN	NETHERLANDS	900			ETHYLENE
2005	DOW CHEMICAL	samples	TERNEUZEN	NETHERLANDS	40XO			ETHYLENE
2005	DOW CHEMICAL CANADA	TECHNIP	FORT SASKATCHEWAN	CANADA	XTM	16		ETHYLENE
2005	DOW IBERICA	TECHNIP	TARRAGONA	SPAIN	XM			ETHYLENE
2005	DOW IBERICA	TECHNIP	TARRAGONA	SPAIN	XTM			ETHYLENE
2005	DOW IBERICA	TECHNIP	TARRAGONA	SPAIN	900			ETHYLENE
2005	DSM		GELEEN	NETHERLANDS	900			HYDROGEN
2005	DUPONT	LUMMUS	ORANGE, TX	USA	XM			ETHYLENE
2005	DUPONT CHEMICAL		ORANGE, TX	USA	XTM			ETHYLENE
2005	ESSO NEDERLANDS	OWN	ROTTERDAM	NETHERLANDS	XM	100		HYDROGEN
2005	EUROCHEM	KELLOGG	NEVINNOMINSK	RUSSIA	XM/900	504		AMMONIA
2005	FORMOSA PLASTICS	STONE & WEBSTER	KAOSHUING	TAIWAN	XM			ETHYLENE
2005	FORMOSA PLASTICS	LUMMUS	TAIWAN	TAIWAN	XTM			ETHYLENE
2005	FORMOSA PLASTICS	LUMMUS	POINT COMFORT	USA	XM			ETHYLENE
2005	FORMOSA PLASTICS	KELLOGG	POINT COMFORT	USA	XTM			ETHYLENE
2005	GRANDE PAROISSE	ONIA GEGI	GRANDPUITS	FRANCE	XM	190		HYDROGEN
2005	IHI			JAPAN	XM	24		HYDROGEN
2005	INTEROLEFIN / UFA	OWN	UFA	RUSSIA	XM			ETHYLENE
2005	KPIC	LUMMUS	ULSAN	KOREA	XM			ETHYLENE
2005	KTI HOUSTON	KTI	LOUISIANA	USA	900			HYDROGEN
2005	LARSEN & TOUBRO	HALDOR TOPSOE		INDIA	900			HYDROGEN
2005	LINDE GAS S.A.	LINDE	CHALAMPE	FRANCE	XM	4		HYDROGEN
2005	MAKWI			POLAND	XM	7		HYDROGEN
2005	NOVOTEX		LUKOR	RUSSIA	XM			ETHYLENE
2005	NOVOTEX	OWN		RUSSIA	XTM			ETHYLENE
2005	PCS	STONE & WEBSTER		SINGAPORE	XM			ETHYLENE
2005	PETROBRAS			BRAZIL	XM	19		HYDROGEN
2005	PKN	LUMMUS	ORLEN	POLAND	XM			ETHYLENE
2005	POLIMERI EUROPA	TECHNIP	BRINDISI	ITALY	XM			ETHYLENE
2005	POLIMERI EUROPA	TECHNIP	GELA	ITALY	XM			ETHYLENE
2005	POLIMERI EUROPA	TECHNIP	DUNKERQUE	FRANCE	XM			ETHYLENE
2005	POLIMERI EUROPA	TECHNIP	PRIOLO	ITALY	XM			ETHYLENE
2005	PT PUPUK SRIWIDJAJA	HALDOR TOPSOE		INDONESIA	900			HYDROGEN
2005	Q-CHEM	TECHNIP	MESSAIED	QATAR	XM			ETHYLENE
2005	Q-CHEM	TECHNIP	MESSAIED	QATAR	XTM			ETHYLENE
2005	SABIC PETROCHEMICAL	LUMMUS	GELEEN	NETHERLANDS	40XO	1	Furnace	ETHYLENE
2005	SABIC PETROCHEMICAL	LUMMUS	GELEEN	NETHERLANDS	900B			ETHYLENE
2005	SABIC PETROCHEMICALS	LUMMUS	GELEEN	NETHERLANDS	40XO	1	Furnace	ETHYLENE
2005	SABIC PETROCHEMICALS	LUMMUS	GELEEN	NETHERLANDS	XTM			ETHYLENE
2005	SABIC SERVICES / PETROKEMYA	TECHNIP	AL JUBAIL	SAUDI ARABIA	XM			ETHYLENE
2005	SAMSUNG		ULSAN	KOREA	XOR			HYDROGEN
2005	SAMSUNG EVERLAND	LUMMUS		KOREA	XM			ETHYLENE
2005	SAMSUNG TOTAL PETROCHEMICALS	LUMMUS	SEOUL	KOREA	XTM			ETHYLENE
2005	SCOMARK			UNITED KINGDOM	XM	40		HYDROGEN
2005	SHELL MEDITERRANEE	LUMMUS	BERRE L'ETANG	FRANCE	XM			ETHYLENE
2005	SK CORPORATION			KOREA	XM	230		HYDROGEN
2005	SKW			GERMANY	2424NB	12		HYDROGEN
2005	SNA	ONIA GEGI	HARFLEUR	FRANCE	XM	28		HYDROGEN
2005	SOLLAC		FLORANGE	France	XOR			HYDROGEN
2005	TECHNIP USA	KTI	EDMONDTON	CANADA	XM	480	Catalyst tubes	HYDROGEN
2005	TECHNIP USA	TECHNIP	KUWEIT	KUWAIT	XTM			ETHYLENE
2005	TECHNIP USA	KTI	WOOD BUFFALO, AB	CANADA	900			HYDROGEN
2005	TOTAL PETROCHEMICAL	KTI	FEYZIN	France	XTM			ETHYLENE
2005	TOTAL PETROCHEMICALS	LUMMUS	CARLING	FRANCE	XM			ETHYLENE
2005	TOTAL PETROCHEMICALS	TECHNIP	FEYZIN	FRANCE	XM			ETHYLENE
2005	TSW ENGINEERS		SCHOTTON	UK	XOR			ETHYLENE
2005	WESTLAKE USA	OWN	SULPHUR	USA	XM			ETHYLENE
2005	EUROTECH	KELLOGG	KEMEROVO	RUSSIA	XM	504		HYDROGEN
2005	WESTLAKE	KELLOGG	SULPHUR	USA	XTM			ETHYLENE
2005	WESTLAKE	OWN	SULPHUR	USA	XTM			ETHYLENE
2005	FORMOSA PLASTICS	KBR	POINT COMFORT	USA	XTM	282		ETHYLENE
2005	BOREALIS	STONE & WEBSTER	STENUNGSUND	SWEDEN	XTM			ETHYLENE
2005	RELIANCE	STONE & WEBSTER	HAZIRA	INDIA	XM			ETHYLENE
2005	VIKRAM ISPAT INDIA	HYL		INDIA	XTM	52		DRI
2006	LUMMUS USA	LUMMUS	SAMSUNG TOTAL, SEOUL	KOREA	XM			ETHYLENE
2006	LUMMUS USA	LUMMUS	SAMSUNG TOTAL, SEOUL	KOREA	XTM			ETHYLENE
2006	ABOCOL COLOMBIA			COLOMBIA	XM	44		HYDROGEN
2006	CARMEL OLEFINS LTD		HAIFA	ISRAEL	XM			ETHYLENE



**REFERENCE LIST**  
**MA NOIR PETROCHEM & NUCLEAR®**

YEAR	COMPANY	DESIGN	LOCATION	COUNTRY	MAIN ALLOY (MANAURITE)	QTY	Unit	PRODUCTION
1965	MEKOG 1	KELLOGG		NETHERLANDS	HK 40	336		
2006	DIVENG, Switzerland	KELLOGG	CHIRCHIK	RUSSIA	XM/900	36 harps		AMMONIA
2006	DOW BENELUX	LUMMUS	TERNEUZEN	NETHERLANDS	XM			ETHYLENE
2006	DOW BENELUX	LUMMUS	TERNEUZEN	NETHERLANDS	XM			ETHYLENE
2006	DOW BENELUX	LUMMUS	TERNEUZEN	NETHERLANDS	XM			ETHYLENE
2006	DOW BENELUX	LUMMUS	TERNEUZEN	NETHERLANDS	XM			ETHYLENE
2006	DOW BENELUX	LUMMUS	TERNEUZEN	NETHERLANDS	XM			ETHYLENE
2006	DOW BENELUX	LUMMUS	TERNEUZEN	NETHERLANDS	XM			ETHYLENE
2006	DOW IBERICA	TECHNIP	TARRAGONA	SPAIN	XM			ETHYLENE
2006	DOW IBERICA	TECHNIP	TARRAGONA	SPAIN	XM			ETHYLENE
2006	DOW IBERICA	TECHNIP	TARRAGONA	SPAIN	XM			ETHYLENE
2006	DUPONT	LUMMUS	ORANGE, TEXAS	USA	XM			ETHYLENE
2006	DUPONT	LUMMUS	ORANGE, TEXAS	USA	XM			ETHYLENE
2006	DUPONT	LUMMUS	ORANGE, TEXAS	USA	XM			ETHYLENE
2006	DUPONT	LUMMUS	ORANGE, TEXAS	USA	XM			ETHYLENE
2006	DUPONT CHEMICAL	LUMMUS	ORANGE, TEXAS	USA	XTM			ETHYLENE
2006	DUPONT CHEMICAL	LUMMUS	ORANGE, TEXAS	USA	XTM			ETHYLENE
2006	DUPONT CHEMICAL	LUMMUS	ORANGE, TEXAS	USA	XTM			ETHYLENE
2006	DUPONT CHEMICAL	LUMMUS	ORANGE, TEXAS	USA	XTM			ETHYLENE
2006	ENAP		TELCAHUANO	CHILE	XM	32		HYDROGEN
2006	ENCE GMBH, SWITZERLAND		CHIRCHICK	UZBEKISTAN	XM	12		HYDROGEN
2006	ENIP		SKIKDA	ALGERIA	XM			ETHYLENE
2006	FINA ANTWERP OLEFINS		ANTWERP	BELGIUM	XM			ETHYLENE
2006	FORMOSA PLASTICS	LUMMUS	POINT COMFORT	USA	XM			ETHYLENE
2006	FORMOSA PLASTICS	LUMMUS	POINT COMFORT	USA	XM			ETHYLENE
2006	FORMOSA PLASTICS	LUMMUS	POINT COMFORT	USA	XM			ETHYLENE
2006	FORMOSA PLASTICS	LUMMUS	POINT COMFORT	USA	XM			ETHYLENE
2006	HALDIA PETROCHEMICALS		KOLKATA	INDIA	XM			ETHYLENE
2006	HALDIA PETROCHEMICALS		KOLKATA	INDIA	XM			ETHYLENE
2006	HALDIA PETROCHEMICALS	LUMMUS	KOLKATA	INDIA	XTM			ETHYLENE
2006	HALDIA PETROCHEMICALS	LUMMUS	KOLKATA	INDIA	XTM			ETHYLENE
2006	HEURTEY PETROCHEM		TOTAL, GONFREVILLE	FRANCE	XM	12 COILS		ETHYLENE
2006	HUNTSMAN	STONE & WEBSTER	Cleveland	UK	40XO	1	Fumace	ETHYLENE
2006	HUNTSMAN PETROCHEMICALS		MIDDLESBROUGH	U.K.	XM			ETHYLENE
2006	HUNTSMAN PETROCHEMICALS		MIDDLESBROUGH	U.K.	XM			ETHYLENE
2006	IPCL		VADODARA	INDIA	XM			ETHYLENE
2006	KIRCHNER, ITALIA		AIR LIQUIDE	ARGENTINA	XM	20		HYDROGEN
2006	KTI	KELLOGG	MESSAIED	QATAR	XM			HYDROGEN
2006	LARSEN & TOUBRO		IOCL	INDIA	XM			ETHYLENE
2006	LARSEN & TOUBRO	LUMMUS	IOCL	INDIA	XTM			ETHYLENE
2006	LURGI OEL GERMANY	LURGI	SIPCHEM	SAUDI ARABIA	XM	400		HYDROGEN
2006	MAN DWE, GERMANY		PCK	GERMANY	XM	186		HYDROGEN
2006	MEDITERRANEAN OIL SERV.		DUSSELDORF	GERMANY	XM			ETHYLENE
2006	MEDITERRANEAN OIL SERV.		DUSSELDORF	GERMANY	XM			ETHYLENE
2006	NAPHTACHIMIE		LAVERA	FRANCE	XM			ETHYLENE
2006	PCC UK	LURGI	KHARG	IRAN	XM	750		HYDROGEN
2006	PETKIM		ALIAGA	TURKEY	XM			ETHYLENE
2006	PETKIM	STONE & WEBSTER	ALIAGA	TURKEY	XTM			ETHYLENE
2006	PETROTRIN, TRINIDAD		SHELL GLOBAL	USA	XM	120		HYDROGEN
2006	POLIMERI		DUNKERQUE	FRANCE	XM			ETHYLENE
2006	POLIMERI		PRIOLO	ITALY	XM			ETHYLENE
2006	POLIMERI EUROPA		PORTO MARGHERA	ITALY	XM			ETHYLENE
2006	POLIMERI		GELA	ITALY	XM			ETHYLENE
2006	POLIMERI		PRIOLO	ITALY	XM			ETHYLENE
2006	POLIMERI		GELA	ITALY	XM			ETHYLENE
2006	POLIMERI		PRIOLO	ITALY	XM			ETHYLENE
2006	POLIMERI		PRIOLO	ITALY	XM			ETHYLENE
2006	POLIMERI EUROPA		PORTO MARGHERA	ITALY	XM			ETHYLENE
2006	POLIMERI EUROPA		PORTO MARGHERA	ITALY	XM			ETHYLENE
2006	PUSRI 2 Indonésia ???	KELLOGG	PALEMBANG	INDONESIA	XM/900	252		AMMONIA
2006	RAYONG OLEFINS CO LTD		BANGKOK	THAILANDE	XM			ETHYLENE
2006	RAYONG OLEFINS CO LTD	LUMMUS	MAP THA PUT	THAILAND	XTM			ETHYLENE
2006	RELIANCE	STONE & WEBSTER	HAZIRA	INDIA	XM			ETHYLENE
2006	SABIC		AL JUBAIL	SAUDI ARABIA	XM			ETHYLENE
2006	SABIC		PETROKEMYA, AL JUBAIL	SAUDI ARABIA	XM			ETHYLENE
2006	SABIC	TECHNIP	AL JUBAIL	SAUDI ARABIA	XTM			ETHYLENE
2006	SABIC	TECHNIP	PETROKEMYA, AL JUBAIL	SAUDI ARABIA	XTM			ETHYLENE
2006	SABIC	TECHNIP	KEMYA, AL JUBAIL	SAUDI ARABIA	XTM			ETHYLENE
2006	SABIC	TECHNIP	PETROKEMYA, AL JUBAIL	SAUDI ARABIA	XTM			ETHYLENE
2006	SABIC PETROCHEMICAL	LUMMUS	GELEEN	NETHERLANDS	40XO	1	Fumace	ETHYLENE
2006	SABIC PETROCHEMICALS BV	LUMMUS	GELEEN	NETHERLANDS	XTM			ETHYLENE
2006	SAMSUNG TOTAL PETROCH.		SEOUL	KOREA	XM			ETHYLENE
2006	SAMSUNG TOTAL PETROCHEMICALS	LUMMUS	SEOUL	KOREA	XTM			ETHYLENE
2003	HALDOR TOPSOE DENMARK	HALDOR TOPSOE	NOVOLIPETSK	RUSSIA	XM	36		HYDROGEN
2006	SELAS LINDE	LINDE	OMV, SCHWECHAT	GERMANY	XTM			ETHYLENE
2006	SELAS LINDE	LINDE	OMV, SCHWECHAT	GERMANY	XM			ETHYLENE
2006	SELAS LINDE	LINDE	BASF ANTWERP	BELGIUM	XTM			ETHYLENE
2006	SELAS LINDE	LINDE	BASF ANTWERP	BELGIUM	XM			ETHYLENE
2006	SHELL MEDITERRANEE	LUMMUS	BERRE L'ETANG	FRANCE	XM			ETHYLENE
2006	TOTAL PETROCHEMICALS	TECHNIP	FEYZIN	FRANCE	XM			ETHYLENE



**REFERENCE LIST**  
MA NOIR PETROCHEM & NUCLEAR®

YEAR	COMPANY	DESIGN	LOCATION	COUNTRY	MAIN ALLOY (MANAURITE)	QTY	Unit	PRODUCTION
1965	MEKOG 1	KELLOGG		NETHERLANDS	HK 40	336		
2006	TOTAL PETROCHEMICALS	LUMMUS	CARLING	FRANCE	XM			ETHYLENE
2006	HEURTEY PETROCHEM	HYL	ABU DHABI	UAE	40XO	18	coils	DRI
2006	TOTAL PETROCHEMICALS		GONFREVILLE	FRANCE	XM			ETHYLENE
2006	WESTLAKE	KELLOGG	SULPHUR, LA	USA	XTM			ETHYLENE
2006	WILLIAMS	KELLOGG	GEISMAR, LA	USA	XTM			ETHYLENE
2006	FORMOSA PLASTICS	KELLOGG	POINT COMFORT	USA	XTM			ETHYLENE
2006	DUPONT CHEMICAL		ORANGE, TX	USA	XM/XTM			ETHYLENE
2006	SELAS LINDE	HYL	ABU DHABI	UAE	XTM	34 COILS		DRI
2007	AIR LIQUIDE		AIR LIQUIDE	THAILAND	XM			HYDROGEN
2007	AIR LIQUIDE IBERICA	HALDOR TOPSOE	H2 PUERTOLLANO	SPAIN	XM			HYDROGEN
2007	ARKEMA	LUMMUS	LAVERA	FRANCE	XM			ETHYLENE
2007	BASF	LINDE		GERMANY	XTM			ETHYLENE
2007	BASF			GERMANY	XM			ETHYLENE
2007	CARMEL			ISRAEL	XM			ETHYLENE
2007	CARMEL OLEFINS LTD			ISRAEL	XM			ETHYLENE
2007	CARMEL OLEFINS LTD			ISRAEL	XM			ETHYLENE
2007	DAVY UK (R&D)			UNITED KINGDOM	XM			ETHYLENE
2007	DAVY UK (R&D)	DAVY		UNITED KINGDOM	XM			HYDROGEN
2007	DOW BENELUX	TECHNIP	TERNEUZEN	NETHERLANDS	XM			ETHYLENE
2007	DOW BENELUX	TECHNIP	TERNEUZEN	NETHERLANDS	XTM			ETHYLENE
2007	DOW IBERICA	TECHNIP	TARRAGONA	SPAIN	XM			ETHYLENE
2007	DOW IBERICA	TECHNIP	TARRAGONA	SPAIN	XTM			ETHYLENE
2007	DUPONT			USA	XM			ETHYLENE
2007	DUPONT	LUMMUS		USA	XTM			ETHYLENE
2007	DYNEON ALL.			GERMANY	XM			ETHYLENE
2007	ECOPETROL			COLOMBIA	XM			HYDROGEN
2007	ENAP		TELCAHUANO	CHILE	XM			ETHYLENE
2007	EXXON	OWN	N.D. DE GRAVENCHON	FRANCE	XM			ETHYLENE
2007	EXXON	OWN	N.D. DE GRAVENCHON	FRANCE	XM			ETHYLENE
2007	FEI JAPON / AI JUBALL			JAPAN	XM			ETHYLENE
2007	FORMOSA PLASTICS	LUMMUS	POINT COMFORT	USA	XM			ETHYLENE
2007	FORMOSA PLASTICS	LUMMUS	POINT COMFORT	USA	XTM			ETHYLENE
2007	FORMOSA PLASTICS			TAIWAN	XM			HYDROGEN
2007	GAIL			INDIA	XM			ETHYLENE
2007	GRANDE PAROISSE			FRANCE	XM			ETHYLENE
2007	GRANDE PAROISSE			FRANCE	XM			HYDROGEN
2007	GS CONST, KOREA		SALALAH METHANOL	OMAN	XM	900		HYDROGEN
2007	GS CONST, KOREA		SALALAH METHANOL	OMAN	XM	744		HYDROGEN
2007	INTRACHEM GERMANY / BIPC	LUMMUS	BANDAR IMAM	IRAN	XM			ETHYLENE
2007	INTRACHEM GERMANY / BIPC	LUMMUS	BANDAR IMAM	IRAN	XM			ETHYLENE
2007	IOCL INDIA			INDIA	XM			ETHYLENE
2007	IOCL INDIA	LUMMUS		INDIA	XTM			ETHYLENE
2007	IPCL INDIA		NAGOTHANE MAHARASHTRA	INDIA	XM			ETHYLENE
2007	IPCL INDIA	STONE & WEBSTER	NAGOTHANE MAHARASHTRA	INDIA	XTM			ETHYLENE
2007	KIRCHNER, ITALIA		AIR LIQUIDE	ARGENTINA	XM			HYDROGEN
2007	LURGI		LOTOS	POLAND	XM			HYDROGEN
2007	NAPHTACHIMIE			FRANCE	XM			ETHYLENE
2007	NOVATEK RUSSIE			RUSSIE	XM			HYDROGEN
2007	PETKIM			TURKEY	XM			ETHYLENE
2007	PETROBRAS			ARGENTINA	XM			HYDROGEN
2002	HALDOR TOPSOE DENMARK	HALDOR TOPSOE			XM	25		HYDROGEN
2007	PETROCHEMICAL KALA Co		BIPC	IRAN	XM			ETHYLENE
2007	PETROCHEMICAL KALA Co		BIPC	IRAN	900			ETHYLENE
2007	PETROCHEMICAL KALA Co		BIPC	IRAN	900			ETHYLENE
2007	PETROCHEMICAL KALA COMPANY		BIPC	IRAN	40 X	10		ETHYLENE
2007	PETROLZOG				XM			ETHYLENE
2007	PETROLZOG			HUNGARY	900			ETHYLENE
2007	PETROM ROMANIA		DOLJCHIM	ROMANIA	20			HYDROGEN
2007	PETROM, ROMANIA		DOLJCHIM	ROMANIA	XM			HYDROGEN
2007	PKN	LUMMUS		POLAND	XM			ETHYLENE
2007	POLIMERI		BRINDISI	ITALY	XM			ETHYLENE
2007	POLIMERI EUROPA		DUNKERQUE	FRANCE	XM			ETHYLENE
2007	PTT CHEM			THAILAND	XM			ETHYLENE
2007	PTT CHEM	LUMMUS		THAILAND	XTM			ETHYLENE
2007	PULAWY			POLAND	XM			HYDROGEN
2007	QENOS			AUSTRALIA	XM			ETHYLENE
2007	RAFFINERIA DI MILAZZO			ITALY	XM	20		HYDROGEN
2007	SABIC PETROCHEMICALS	LUMMUS	GELEEN	NETHERLANDS	40XO	1	Furnace	ETHYLENE
2007	SABIC PETROKEM.	STONE & WEBSTER		UK	XTM			ETHYLENE
2007	SABIC			UK	XM			ETHYLENE
2007	SABIC	STONE & WEBSTER	Cleveland	UK	40XO	1	Furnace	ETHYLENE
2007	SAMSUNG, KOREA		BP CHEMICALS	KOREA	XM	30		HYDROGEN
2007	SASOL			SPAIN	XM			HYDROGEN
2007	SELAS LINDE	LINDE	BASF ANTWERP	BELGIUM	XM			ETHYLENE
2007	SELAS LINDE	LINDE	BASF ANTWERP	BELGIUM	XTM			ETHYLENE
2007	SHELL MEDITERRANNEE	LUMMUS	BERRER L'ETANG	FRANCE	XM			ETHYLENE
2007	SIARKOPOL			POLAND	XM			ETHYLENE
2007	TECHNIP ITALY		TIANJIN DAGU CHEMICAL	CHINA	XM			ETHYLENE



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MA NOIR PETROCHEM & NUCLEAR®

YEAR	COMPANY	DESIGN	LOCATION	COUNTRY	MAIN ALLOY (MANAURITE)	QTY	Unit	PRODUCTION
1965	MEKOG 1	KELLOGG		NETHERLANDS	HK 40	336		
2007	TITAN PETROCHEMICAL	STONE & WEBSTER	PASIR GUDANG / JOHOR	MALAYSIA	XM			ETHYLENE
2007	TITAN PETROCHEMICALS	STONE & WEBSTER	PASIR GUDANG / JOHOR	MALAYSIA	XTM			ETHYLENE
2007	TOTAL OUTRE MER		ABIDJAN	IVORY COAST	XM			HYDROGEN
2007	TOTAL PETROCHEMICALS		OUTRE MER	FRANCE	XM			ETHYLENE
2007	TOTAL PETROCHEMICALS		FEYZIN	FRANCE	XM			ETHYLENE
2007	TOTAL PETROCHEMICALS	TECHNIP	GONFREVILLE	FRANCE	XM			ETHYLENE
2007	WESTLAKE	KBR	SULPHUR	USA	XTM			ETHYLENE
2007	WESTLAKE		SULPHUR	USA	XM			ETHYLENE
2007	WILLIAMS	LUMMUS	GEISMAR	USA	XM			ETHYLENE
2007	WILLIAMS	KBR		USA	XTM			ETHYLENE
2008	AIR LIQUIDE IBERICA	HALDOR TOPSOE	H2 PUERTOLLANO	SPAIN	XM			HYDROGEN
2008	ARKEMA	LUMMUS	LAVERA	FRANCE	XM			ETHYLENE
2008	ARKEMA	LUMMUS	LAVERA	FRANCE	XM			ETHYLENE
2008	ASEAN BINTULU			THAILAND	XM			HYDROGEN
2008	BASF			GERMANY	XM			ETHYLENE
2008	BASF Allemagne	LINDE		Allemagne	XTM			ETHYLENE
2008	BOREALIS	STONE & WEBSTER		FINLAND	XTM			ETHYLENE
2008	BOREALIS			FINLANDE	XM			ETHYLENE
2008	CARMEL			ISRAEL	XM			ETHYLENE
2008	DINA CROATIE	STONE & WEBSTER		CROATIA	XM			ETHYLENE
2008	DOW BENELUX	LUMMUS	TERNEUZEN	NETHERLANDS	XM			ETHYLENE
2008	DOW IBERICA	TECHNIP	TARAGONNA	SPAIN	XM			ETHYLENE
2008	DOW IBERICA	TECHNIP	TARAGONNA	SPAIN	XM			ETHYLENE
2008	DUPONT	LUMMUS	PORT ARTHUR	USA	XM			ETHYLENE
2008	DUPONT	LUMMUS	PORT ARTHUR	USA	XTM			ETHYLENE
2008	ECOPETROL			COLOMBIA	XM			HYDROGEN
2008	EXXON	OWN	N.D. DE GRAVENCHON	FRANCE	XM			ETHYLENE
2008	FORMOSA PLASTICS	KBR		TAIWAN	XM			ETHYLENE
2008	FOURE LAGADEC "ALGERIE"	LINDE MODIFIED	ARZEW	ALGERIA	XM			ETHYLENE
2008	FOURE LAGADEC "ALGERIE"	LINDE MODIFIED	ARZEW	ALGERIA	XTM			ETHYLENE
2008	FORMOSA PLASTICS	KBR	POINT COMFORT	USA	XM			ETHYLENE
2008	FORMOSA PLASTICS	KBR	POINT COMFORT	USA	XTM			ETHYLENE
2001	HALDOR TOPSOE DENMARK	HALDOR TOPSOE		CHINA	XM	24		HYDROGEN
2000	HALDOR TOPSOE DENMARK	HALDOR TOPSOE	TEIJIN	CHINA	XM	28		HYDROGEN
2008	HEURTEY PETROCHEM EXXON	OWN	SINGAPORE	SINGAPORE	XM			ETHYLENE
2008	HEURTEY PETROCHEM EXXON	OWN	SINGAPORE	SINGAPORE	XM			ETHYLENE
2008	INTEROLEFIN / KAZAN	LUMMUS	KAZAN	RUSSIA	XM			ETHYLENE
2008	INTEROLEFIN / KAZAN	LUMMUS	KAZAN	RUSSIA	XM			ETHYLENE
2008	INTEROLEFIN / UFA	LUMMUS	UFA	RUSSIA	XM			ETHYLENE
2008	INTEROLEFIN / UFA	LUMMUS	UFA	RUSSIA	XM			ETHYLENE
2008	INTRACHEM GERMANY / BIPC	LUMMUS	BANDAR IMAM	IRAN	XM			ETHYLENE
2008	INTRACHEM GERMANY / BIPC	LUMMUS	BANDAR IMAM	IRAN	XM			ETHYLENE
2008	INTRACHEM GERMANY / BIPC	LUMMUS	BANDAR IMAM	IRAN	XTM			ETHYLENE
2008	IPCL	STONE & WEBSTER	BARODA	INDIA	XM			ETHYLENE
2008	KIRCHNER Italie			ITALY	XM			HYDROGEN
2008	KIRCHNER, ITALIA		AIR LIQUIDE	ARGENTINA	XM			HYDROGEN
2008	KTI	KTI	USA / TOYO	SAUDI ARABIA	XM			HYDROGEN
2008	LURGI	LURGI	LOTOS	POLAND	XM			HYDROGEN
2008	MARUZEN	LUMMUS		JAPAN	XM			ETHYLENE
2008	MES / EXXON ASIA	OWN	JURONG ISLAND	SINGAPORE	XM			ETHYLENE
2008	MITSUBISHI / MIZUSHIMA	LUMMUS		JAPAN	XM			ETHYLENE
2008	MITUBISHI	LUMMUS		JAPAN	XM			ETHYLENE
2008	MITUBISHI / KASHIMA & MIZUSHIMA	LUMMUS		JAPAN	XM			ETHYLENE
2008	MOL HONGRIE			HONGRIE	XM			HYDROGEN
2008	NAPHTACHIMIE	LINDE		FRANCE	XM			ETHYLENE
2008	NAPHTACHIMIE	LINDE		FRANCE	XM			ETHYLENE
2008	NOVOTEX / SALAVAT	LUMMUS		RUSSIA	XM			ETHYLENE
2008	NOVOTEX / SALAVAT	LUMMUS		RUSSIA	XTM			ETHYLENE
2008	PBB POLISUR BAHIA (DOW)	LINDE		ARGENTINA	XM			ETHYLENE
2008	PCC UK / KALA			IRAN	XM			ETHYLENE
2008	PETKIM TURQUIE	STONE & WEBSTER	IZMIR	TURKEY	XM			ETHYLENE
2008	PETKIM TURQUIE	STONE & WEBSTER	IZMIR	TURKEY	XTM			ETHYLENE
2008	PETROM			ROMANIA	XM			ETHYLENE
2008	PETROM, ROMANIA		DOLJCHIM	ROMANIA	XM			HYDROGEN
2008	PKN	LUMMUS	ORLEN	POLAND	XM			ETHYLENE
2008	POLIMERI EUROPA	LUMMUS	PORTO MARGHERA	ITALY	XM			ETHYLENE
2008	POLIMERI EUROPA	TECHNIP	PRIOLO	ITALY	XM			ETHYLENE
2008	POLIMERI EUROPA	TECHNIP	PRIOLO	ITALY	XM			ETHYLENE
2008	POLIMERI EUROPA	LUMMUS	DUNKERQUE	FRANCE	XM			ETHYLENE
2008	POLIMERI EUROPA	LUMMUS	DUNKERQUE	FRANCE	XM			ETHYLENE
2008	POLIMERI EUROPA	TECHNIP	PRIOLO	ITALY	XM			ETHYLENE
2008	POLIMERI EUROPA	LUMMUS	PORTO MARGHERA	ITALY	XM			ETHYLENE
2008	POLIMERI EUROPA	LUMMUS	PORTO MARGHERA	ITALY	XM			ETHYLENE
2008	POLIMERI EUROPA	TECHNIP	PRIOLO	ITALY	XM			ETHYLENE
2008	PULAWY			POLAND	XM			HYDROGEN
2008	QENOS	LINDE	BOTANY BAY	AUSTRALIA	XM			ETHYLENE
2008	QENOS	LINDE	BOTANY BAY	AUSTRALIA	XTM			ETHYLENE
2008	RELIANCE	STONE & WEBSTER	HAZIRA	INDIA	XTM	3	Furnace	ETHYLENE



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**MA NOIR PETROCHEM & NUCLEAR®**

YEAR	COMPANY	DESIGN	LOCATION	COUNTRY	MAIN ALLOY (MANAURITE)	QTY	Unit	PRODUCTION
1965	MEKOG 1	KELLOGG		NETHERLANDS	HK 40	336		
2008	RELIANCE	STONE & WEBSTER	HAZIRA	INDIA	XM			ETHYLENE
2008	SABIC	LUMMUS	ARABIAN	SAUDI ARABIA	XM			ETHYLENE
2008	SABIC / ARABIAN	LUMMUS	ARABIAN	SAUDI ARABIA	XTM			ETHYLENE
2008	SABIC PETROCHEMICALS	LUMMUS	GELEEN	NETHERLANDS	40XO	1	Furnace	ETHYLENE
2008	SAMSUNG COREE	LUMMUS	ULSAN	KOREA	XM			ETHYLENE
2008	SAMSUNG COREE	LUMMUS	ULSAN	KOREA	XTM			ETHYLENE
2008	SASOL			ITALY	XM			HYDROGEN
2008	SELAS LINDE	LINDE	AL JUBAIL	SAUDI ARABIA	XM			ETHYLENE
2008	SHELL MEDITERRANNEE	LUMMUS	BERRE L'ETANG	FRANCE	XM			ETHYLENE
2008	SHELL MEDITERRANNEE	LUMMUS	BERRE L'ETANG	FRANCE	XM			ETHYLENE
2008	SHELL MEDITERRANNEE	LUMMUS	BERRE L'ETANG	FRANCE	XM			ETHYLENE
2008	STONE & WEBSTER UK	STONE & WEBSTER	SLOVNAFT	HUNGARY	XM			ETHYLENE
2008	STONE & WEBSTER UK	STONE & WEBSTER	SLOVNAFT	HUNGARY	XTM			ETHYLENE
2008	TECHNIP ITALY	TECHNIP	TIANJIN DAGU CHEMICAL	CHINA	XM			ETHYLENE
2008	TOTAL GONFREVILLE	STONE & WEBSTER	GONFREVILLE	FRANCE	XTM			ETHYLENE
2008	TOTAL PETROCHEMICALS	TECHNIP	GONFREVILLE	FRANCE	XM			ETHYLENE
2008	TOTAL PETROCHEMICALS	LUMMUS	CARLING	FRANCE	XM			ETHYLENE
2008	TOTAL PETROCHEMICALS	TECHNIP	FEYZIN	FRANCE	XM			ETHYLENE
2008	TOTAL RAFFINADERIJ	STONE & WEBSTER	ANTWERP	BELGIUM	XM			ETHYLENE
2008	TVK	SELAS	TISZAUJVAROS	HUNGARY	XM			ETHYLENE
2008	TVK	SELAS	TISZAUJVAROS	HUNGARY	XTM			ETHYLENE
2008	WESTLAKE USA	OWN	SULPHUR	USA	XM			ETHYLENE
2008	WESTLAKE USA	OWN	SULPHUR	USA	XTM			ETHYLENE
2008	WILLIAMS	KBR		USA	XTM			ETHYLENE
2008	BASF		LUDWIGSHAFEN	GERMANY	XT			ETHYLENE
2008	CAIN CHEMICALS / ALVIN			USA	XT			ETHYLENE
2008	CDF CHIMIE DUNKIRK			FRANCE	XT			ETHYLENE
2008	CDF CHIMIE ST AVOLD			FRANCE	XT			ETHYLENE
2008	CHEMPLEX			USA	XT			ETHYLENE
2008	D.S.M.			NETHERLANDS	XT			ETHYLENE
2008	EQUISTAR / CHOCOLATE BAYOU			USA	XT			ETHYLENE
2008	EQUISTAR / CHOCOLATE BAYOU			USA	XT			ETHYLENE
2008	ESSO			SWEDEN	XT			ETHYLENE
2008	ESSO HAMBURG			GERMANY	XT			ETHYLENE
2008	EXXON	OWN	BATON ROUGE	USA	XT			ETHYLENE
2008	GEA Allemagne			GERMANY	XM			ETHYLENE
2008	GULF OIL			NETHERLANDS	XT			ETHYLENE
2008	H.R.C. HOUSTON			USA	XT			ETHYLENE
2008	HAMBURGER STAHLWERKE			GERMANY	XT			ETHYLENE
2008	HYLSA			MEXICO	XT			ETHYLENE
2008	LUMMUS / MONSANTO	LUMMUS		USA	XT			ETHYLENE
2008	LUMMUS FRANCE/CDF CHIMIE	LUMMUS	DUNKIRK	FRANCE	XT			ETHYLENE
2008	MONSANTO			USA	XT			ETHYLENE
2008	NAPHTACHIMIE			FRANCE	XT			ETHYLENE
2008	NORKS HYDRO			NORWAY	XT			ETHYLENE
2008	NORTHERM			USA	XT			ETHYLENE
2008	NORTHERM			USA	XT			ETHYLENE
2008	OXYCHEM / ALVIN			USA	XT			ETHYLENE
2008	OXYCHEM / CHOCOLATE BAYOU	LUMMUS	CHOCOLATE BAYOU	USA	XT			ETHYLENE
2008	OXYCHEM / CHOCOLATE BAYOU	LUMMUS	CHOCOLATE BAYOU	USA	XT			ETHYLENE
2008	OXYCHEM / CHOCOLATE BAYOU	LUMMUS	CHOCOLATE BAYOU	USA	XT			ETHYLENE
2008	PETROSAR			CANADA	XT			ETHYLENE
2008	SIARKOPOL			POLAND	XM			ETHYLENE
2008	STATOIL		STENUNGSUND	SWEDEN	XT			ETHYLENE
2008	TOSOH YOKKAICHI			JAPAN	XT			ETHYLENE
2008	TOSOH YOKKAICHI			JAPAN	XT			ETHYLENE
2008	FCP USA		POINT COMFORT	USA	900B			ETHYLENE
2008	SRC SINGAPOUR			SINGAPORE	XM	35		HYDROGEN
2008	SIDPEC	LUMMUS	ALEXANDRIA	EGYPT	XTM			ETHYLENE
2008	SIDPEC	LUMMUS	ALEXANDRIA	EGYPT	XM			ETHYLENE
2008	SIDPEC	LUMMUS	ALEXANDRIA	EGYPT	900			ETHYLENE
2008	SIDPEC	LUMMUS	ALEXANDRIA	EGYPT	900B			ETHYLENE
2008	PT/MEDCO			INDONESIA	XM			METHANOL
2008	ITT SPA HONGRIE	HALDOR TOPSOE		HUNGARY	XM	174	Tubes	HYDROGEN
2008	TOTAL CARLING	LUMMUS	CARLING	FRANCE	XTM			ETHYLENE
2008	FORMOSA PLASTICS	LUMMUS	POINT COMFORT	USA	XTM	174	Tubes	ETHYLENE
2008	ITT Italie / ARZEW	HALDOR TOPSOE	ARZEW	ALGERIA	XM	576	Tubes	AMMONIA
2008	PKN	LUMMUS		POLAND	XTM			ETHYLENE
2008	PKN	LUMMUS		POLAND	XM			ETHYLENE
2008	SABIC NL	LUMMUS	GELEEN	NETHERLANDS	40XO	1	Furnace	ETHYLENE
2008	SABIC NL	LUMMUS		NETHERLANDS	XTM			ETHYLENE
2008	SABIC NL			NETHERLANDS	50 W			ETHYLENE
2008	FINA ANTWERP OLEFINS		ANTWERP	BELGIUM	XM			ETHYLENE
2008	FINA ANTWERP OLEFINS		ANTWERP	BELGIUM	900			ETHYLENE
2008	WESTLAKE USA	LUMMUS	SULPHUR	USA	XTM			ETHYLENE
2008	WESTLAKE USA	LUMMUS	SULPHUR	USA	XM			ETHYLENE
2008	AIR PRODUCT				XM	28		HYDROGEN
2008	S-OIL COREE			KOREA	XM			HYDROGEN



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YEAR	COMPANY	DESIGN	LOCATION	COUNTRY	MAIN ALLOY (MANAURITE)	QTY	Unit	PRODUCTION
1965	MEKOG 1			NETHERLANDS	HK 40	336		
2008	S-OIL COREE			KOREA	900			HYDROGEN
2008	ZIA FERTILIZER Bangladesh			BANGLADESH	24-24			HYDROGEN
2008	ZIA FERTILIZER Bangladesh			BANGLADESH	20			HYDROGEN
2008	MITSUBISHI CHEMICALS	LUMMUS	KASHIMA	JAPAN	XM			ETHYLENE
2008	MITSUBISHI CHEMICALS	LUMMUS	KASHIMA	JAPAN	XTM			ETHYLENE
2008	PETROBRAS			ARGENTINA	XM			HYDROGEN
2008	PETROBRAS			ARGENTINA	900			HYDROGEN
2008	BASF	LINDE	ANTWERP	BELGIUM	XTM			ETHYLENE
2008	BASF	LINDE	ANTWERP	BELGIUM	XM			ETHYLENE
2008	DOW BENELUX	TECHNIP	TERNEUZEN	NETHERLANDS	XTM			ETHYLENE
2008	FOSTER WHEELER UK	OWN	HULL	UNITED KINGDOM	900		MANIFOLD	HYDROGEN
2008	FOSTER WHEELER UK	OWN	HULL	UNITED KINGDOM	XM	176	Tubes	HYDROGEN
2008	FOSTER WHEELER UK / RUSSIE	OWN	KHABAROVSK	RUSSIA	900	1	MANIFOLD	HYDROGEN
2008	FOSTER WHEELER UK / RUSSIE	OWN	KHABAROVSK	RUSSIA	XM	80	Tubes	HYDROGEN
2008	POLIMERI P. MARGHERA	LUMMUS	PORTO MARGHERA	ITALY	XM			HYDROGEN
2008	POLIMERI P. MARGHERA	LUMMUS	PORTO MARGHERA	ITALY	900B			HYDROGEN
2009	REPSOL	TECHNIP	TARRAGONA	SPAIN	XM			ETHYLENE
2009	TECHNIP BENELUX / REPSOL	TECHNIP	TARRAGONA	SPAIN	XTM			ETHYLENE
2009	ITS HOUSTON / PEMEX	LUMMUS		MEXICO	XM			ETHYLENE
2009	ITS HOUSTON / PEMEX	LUMMUS		MEXICO	XM			ETHYLENE
2009	ITS HOUSTON / PEMEX	LUMMUS		MEXICO	XM			ETHYLENE
2009	BOREALIS FINLANDE	STONE & WEBSTER	POORVOO	FINLAND	XM			ETHYLENE
2009	SELAS LINDE	HYL	ABU DHABI	UAE	XTM	1	Furnace	DRI
2009	NOVIGAS Italie			ITALY	XM	10		HYDROGEN
2009	INTRACHEM ALL / AMIR KABIR	LUMMUS		IRAN	XM			ETHYLENE
2009	CEMIT Italie POUR "TARRANTE"			ITALY	900	2	Outlet manifolds	HYDROGEN
2009	POLIMERI P. MARGHERA	LUMMUS	PORTO MARGHERA	ITALY	XM			ETHYLENE
2009	POLIMERI P. MARGHERA	LUMMUS	PORTO MARGHERA	ITALY	900 B			ETHYLENE
2009	POLIMERI BRINDISI	TECHNIP	BRINDISI	ITALY	XM			ETHYLENE
2009	POLIMERI BRINDISI	TECHNIP	BRINDISI	ITALY	900 B			ETHYLENE
2009	INTEROLEFIN SUISSE / KAZAN	LUMMUS		RUSSIA	XM			ETHYLENE
2009	FORMOSA PLASTICS	KBR	POINT COMFORT	USA	XTM			ETHYLENE
2009	FORMOSA PLASTICS	KBR	POINT COMFORT	USA	XM			ETHYLENE
2009	SEMADCO EGYTPE	TECHNIP	SUEZ	EGYPT	XM	72	Catalyst tubes	HYDROGEN
2009	FORMOSA PLASTICS	HALDOR TOPSOE		TAIWAN	XM			HYDROGEN
2009	AZOMURES ROUMANIE	KELLOGG		ROUMANIA	XM/900	352	Catalyst tubes	AMMONIA
2009	PTT AROMATICS THAILAND	UHDE	MAP THA PUT	THAILAND	XM	16	Catalyst tubes	HYDROGEN
2009	TECNOPLANTS Italie POUR ENI TARRANTO	TECHNIP	TARRANTO	ITALY	XM	88	Catalyst tubes	HYDROGEN
2009	ABU-QIR	UHDE	ALEXANDRIA	EGYPT	XM	210	Catalyst tubes	HYDROGEN
2009	SABIC "KEMYA" A.S	LUMMUS	AL JUBAIL	SAUDI ARABIA	XTM	3	Furnace	ETHYLENE
2009	LUMMUS TECHNOLOGY USA	LUMMUS	CPC	TAIWAN	XM/XTM	7	Furnace	ETHYLENE
2009	SABIC NL	LUMMUS	GELEEN	NETHERLANDS	40XO	1	Furnace	ETHYLENE
2009	TOTAL PETROCHEMICALS	LUMMUS	CARLING	FRANCE	XO	1	Furnace	ETHYLENE
2010	POLIMERI EUROPA	TECHNIP	PRIOLO	ITALY	XM			ETHYLENE
2010	POLIMERI EUROPA	TECHNIP	DUNKIRK	FRANCE	XM			ETHYLENE
2010	NAPHTACHIMIE	LUMMUS	LAVERA	FRANCE	XM			ETHYLENE
2010	SABIC PETROKEMIA	TECHNIP	AL JUBAIL	SAUDI ARABIA	XTM			ETHYLENE
2010	FORMOSA PLASTICS	KELLOGG	POINT COMFORT	USA	XTM	2	Furnace	ETHYLENE
2010	DOW CHEMICAL	TECHNIP	BEULEN	GERMANY	XM/XTM	1	Furnace	ETHYLENE
2010	AZMECO	DAVY	BAKU	AZERBAIJAN	XM		Catalyst tubes	METHANOL
2010	ECOPETROL	FW		COLOMBIA	XM		Catalyst tubes	HYDROGEN
2010	BASF	LINDE	ANTWERP	BELGIUM	XTM/XM	2	Furnace	ETHYLENE
2010	GPN	ONIA	GRANDPUITS	FRANCE	XMR	210	Catalyst tubes	AMMONIA
2010	BELINKA			SLOVENIA	XM		Catalyst tubes	METHANOL
2010	RASCO	STONE & WEBSTER	RAS LANUF	LIBYA	900			ETHYLENE
2010	ALTO PARANA			ARGENTINA	XM			
2010	POLIMERI EUROPA	TECHNIP	PORTO TORRES	ITALY	XM			ETHYLENE
2010	QVC	HEURTEY	MESSAIED	QATAR	900			VCM
2010	JARAGUA	HALDOR TOPSOE	SOROCABA	BRAZIL	XM	624	Catalyst tubes	HYDROGEN
2010	TOTAL	TECHNIP	FEYZIN	FRANCE	XTM			ETHYLENE
2010	POLIMERI EUROPA	TECHNIP	BRINDISI	ITALY	XM			ETHYLENE
2010	SASOL	TECHNIP		ITALY	XM		Catalyst tubes	HYDROGEN
2010	DOW BENELUX	TECHNIP	TERNEUZEN	NETHERLANDS	XM			ETHYLENE
2010	HEURTEY PETROCHEM	STONE & WEBSTER	GONFREVILLE	FRANCE	XTM/XTM/900	3	Furnace	ETHYLENE
2010	AIR LIQUIDE	HALDOR TOPSOE	BERGEN OP ZOOM	NETHERLANDS	XM		Catalyst tubes	HYDROGEN
2010	POLIMERI EUROPA	SELAS	PORTO TORRES	ITALY	XM			ETHYLENE
2010	MADRAS FERTILIZERS	HALDOR TOPSOE	CHENNAI	INDIA	XM		Catalyst tubes	AMMONIA
2010	POLIMERI EUROPA	STONE & WEBSTER	PRIOLO	ITALY	XM/XTM	2	Furnace	ETHYLENE
2010	YARA	ONIA	HARFLEUR	FRANCE	XM		Catalyst tubes	AMMONIA
2010	DOW BENELUX	TECHNIP	TERNEUZEN	NETHERLANDS	XM/XTM		Furnace	ETHYLENE
2010	SLOVNAFT	STONE & WEBSTER	SLOVNAFT	SLOVAKIA	XM/XTM			ETHYLENE
2010	TECHNIP ITALY	TECHNIP	AL JUBAIL	SAUDI ARABIA	XM/900	736	Catalyst tubes	HYDROGEN
2010	TECHNIP ITALY	TECHNIP	AL JUBAIL	SAUDI ARABIA	900	8	MANIFOLDS	HYDROGEN
2010	PULAWY			POLAND	XM		Catalyst tubes	
2010	POLIMERI EUROPA	LUMMUS	DUNKIRK	FRANCE	XM			ETHYLENE
2010	PKN	LUMMUS	ORLEN	POLAND	XM/XTM			ETHYLENE
2010	POLIMERI EUROPA	LUMMUS	PORTO MARGHERA	ITALY	XM			ETHYLENE
2010	DOW BENELUX	OWN	TERNEUZEN	NETHERLANDS	XM			ETHYLENE



**REFERENCE LIST**  
MA NOIR PETROCHEM & NUCLEAR®

YEAR	COMPANY	DESIGN	LOCATION	COUNTRY	MAIN ALLOY (MANAURITE)	QTY	Unit	PRODUCTION
1965	MEKOG 1	KELLOGG		NETHERLANDS	HK 40	336		
2010	NFL	HALDOR TOPSOE		INDIA	XM		Catalyst tubes	AMMONIA
2010	BORSODCHEM			HUNGARY	900	1	Furnace	VCM
2010	NAPHTACHIMIE	LUMMUS	LAVERA	FRANCE	XM/XO	1	Furnace	ETHYLENE
2010	PETROBRAS			ARGENTINA	XM	1	Furnace	ETHYLENE
2010	SABIC HADEED	HYL	AL JUBAIL	SAUDI ARABIA	XTM/XM	1	Furnace	DRI
2010	BCPL	LUMMUS		INDIA	XM/XTM	4	Furnace	ETHYLENE
2010	SELAS LINDE	HYL	JINDAL	INDIA	XTM	1	Furnace	DRI
2010	SELAS LINDE	HYL	SUKHNA	EGYPT	XTM	1	Furnace	DRI
2010	TERNIUM	HYL	PUEBLA	MEXICO	XM/XTM			DRI
2010	SABIC KEMYA	LUMMUS	AL JUBAIL	SAUDI ARABIA	XM/XTM			ETHYLENE
2010	FORMOSA PLASTICS	KELLOGG	POINT COMFORT	USA	XTM	1	Furnace	ETHYLENE
2010	SABIC PETROKEMYA	SELAS	AL JUBAIL	SAUDI ARABIA	XTM			ETHYLENE
2010	ARCELOR MITTAL		FLORANGE	FRANCE	40X			
2010	ASAM PETROCHEMICAL		ASAM	INDIA	XM			
2010	MARUBENI JAPAN	OWN		IRAK	XM		Catalyst tubes	AMMONIA
2010	WELSPUN	HYL		INDIA	XTM			DRI
2010	ASAHI	STONE & WEBSTER	ASAHI	JAPAN	XM/XTM/900			ETHYLENE
2010	HALDOR TOPSOE DENMARK	HALDOR TOPSOE	TEIJIN	CHINA	XM	28		HYDROGEN
2010	HALDOR TOPSOE DENMARK	HALDOR TOPSOE	TEIJIN	CHINA	XM	24		HYDROGEN
2010	PECH RIN	UHDE	OTTMARSHEIN	FRANCE	XM		Catalyst tubes	AMMONIA
2010	DOW BENELUX	TECHNIP	TERNEUZEN	NETHERLANDS	XM			ETHYLENE
2010	RAFINERJA NAFTE			BOSNIA	20	15	Catalyst tubes	HYDROGEN
2010	RCF	HALDOR TOPSOE	RASHTRIYA	INDIA	XM	600	Catalyst tubes	AMMONIA
2010	PULAWY			POLAND	XM		Catalyst tubes	
2010	LARSEN & TOUBRO	HALDOR TOPSOE		INDIA	900		Manifolds	AMMONIA
2010	HEURTEY PETROCHEM	HALDOR TOPSOE		SERBIA	900	200	Catalyst tubes	HYDROGEN
2010	FORMOSA PLASTICS	KELLOGG	POINT COMFORT	USA	40XO	1	Furnace	ETHYLENE
2010	NAPHTACHIMIE	LUMMUS	LAVERA	FRANCE	XO	1	Furnace	ETHYLENE
2010	RELIANCE	STONE & WEBSTER	NAGOTHANE	india	40XO	1	Furnace	ETHYLENE
2010	RELIANCE	STONE & WEBSTER	DAHEJ	india	40XO	1	Furnace	ETHYLENE
2010	EXXON	OWN	GRAVENCHON	FRANCE	XTM	1	Furnace	ETHYLENE
2011	NAPHTACHIMIE	LUMMUS	LAVERA	FRANCE	XM/XO	1	Furnace	ETHYLENE
2011	FORMOSA PLASTICS	KELLOGG	POINT COMFORT	USA	40XO	1	Furnace	ETHYLENE
2011	DOW CHEMICAL	TECHNIP	FORT SASKATCHEWAN	CANADA	XTM	1	Furnace	ETHYLENE
2011	POLIMERI EUROPA Italie	KTI	BRINDISI	ITALY	XM/XTM	1	Furnace	ETHYLENE
2011	EXXON	OWN	SINGAPOUR	SINGAPORE	900B	2	Furnaces	ETHYLENE
2011	EXXON	OWN	GRAVENCHON	FRANCE	900B	8	Quench headers	ETHYLENE