

From University Spin-Off To Global Player



AMTECH CHEMICAL SDN BHD
Corporate Services Department

www.amtech.com.my

Content	Page
1. Executive Summary	1
2. Introduction	2
3. Objective	3
4. Vision and Mission	3
5. Industry Scenario	3
6. AMTECH Business	
i. Chemical Formulation and Production	4-5
ii. Technical Manpower	6
iii. Engineering/ Laboratory Services	7-8
iv. Civil Engineering&Technical Services	8-9
v. Trading	10
7. Technology Plan	11
8. Company Particulars	12
9. Registration/ Letters of Support	13-14
10. Our Future Business	15
11. Conclusion	16
12. Others:	
Appendix: Track Record of Contract Selected / Purchases	



EXECUTIVE SUMMARY:

When we are on the outside of the industry, there seem so many barriers and difficulties in setting up a company supporting the oil and gas industry.

But with a vision and mission that sets the purpose, a Technology Plan and experience, AMTECH was able to prove that it is not impossible to establish such an entity.

In a knowledge-based industry, patience and understanding the learning curve is important. Then there are strategies to be laid out every five years to set and achieve incremental progress driven by the vision.

Thus the collaborations with local and foreign universities are vital to harness the academic input to achieve the objectives. We also have to learn from how others do it. So AMTECH invest in a lot of studies overseas to Canada, USA, Korea, Japan and China to study and develop understanding of how we want to shape our business model.

Finally having a good team, both technical and non technical is important. Then to make it all work towards the objective is equally vital. Relationships with the Banks are needed to keep our operations smooth and with the good relationship and support of the client, we are able to maintain a good cash-flow management that provided a stable business environment.

AMTECH is at the crucial point in its development as it approaches the final phase of its Technology Plan and injection of funds through investment becomes critical as it pushes its sales volume past the RM50.0m psychological barrier towards RM100.0m and potential listing in the local bourse.

INTRODUCTION:

This document outline the journey undertook by AMTECH in pursuit of its dream to be the production chemical and provider of services of choice to the Malaysian oil and gas industry through a technology development plan.

Starting with a vision to check the continuous patronage of foreign chemical companies in Malaysia since the Petroleum Development Act was incorporated in 1974. The founder gained as much knowledge from 16 years experience in PETRONAS and then 12 years as Associate Professor at the Universiti Teknologi Malaysia in Skudai Johor.

AMTECH was subsequently incorporated in February 1999 using concepts learnt from observing its original company AMTECH Inc. of Calgary Canada which was “Solving Site Specific Problems”. A talented chemist graduating from Universiti Malaya, then joined AMTECH as partner a year later up to this day.

Two MOUs were signed in 2001 for the development of scale and corrosion inhibitors (with UTM Chemical Engineering Pilot Plant) and later, sludge breaker (with MINT in Bangi) awarded by SMIDEC totaling RM2.75m. It was envisage then that scale and corrosion are the major cause of concerns in the local oilfields and that sludge minimization will enable industry to recover valuable hydrocarbons and reduce treatment costs to Kualiti Alam, besides supporting environmental conservation efforts by the Government.

In the meantime, with the support of the Melaka Refinery team AMTECH developed a decontaminant to clean tanks and vessels which was meant to compete with expensive imports. It then patented the product and subsequently registered all their products and devices with the completion of the above applied projects in 2003. From 2004 it worked closely with PETRONAS Dagangan and Carigali to submit a joint proposal to overcome the scaling problems at Tiong and Dulang fields which were in their midlife.

Having registered with PETRONAS and several other entities such as TNB, PROPEL, CIDB, SIME, MMHE and approval by BOMBA, DOE, JKKP AMTECH was ready to submit a Vendor Proposal to PETRONAS in 2006. In September 2007 it was awarded a Restricted Category for three chemicals namely Scale, Corrosion and Deoiler which made it among the first bumiputera company to be accorded such a category. AMTECH products are registered trade-marked.

The next milestone was when in December 2007 AMTECH was awarded a RM7.5m three years contract to supply chemicals for a Greenfield by NEWFIELD of Texas USA. It was the first and toughest challenge AMTECH has to face but it provided a valuable learning curve for our technical team.

Following the success, AMTECH was awarded in July 2011 a brownfield RM 50.0m. contract by Carigali for the supply of three chemicals to the Peninsular Malaysia, Sabah and Sarawak Operations. In between AMTECH secured various Price Agreements and Purchase Orders that helped us generate annual sale of RM18.0 to 20.0m as of FYE 2013.

Coming close to completion of Phase 2 of its Technology Plan, AMTECH is embarking on exciting program to accelerate its achievement of the set objectives by collaborating with industry giants as well as local technology universities such as UTP, UTM, UMP, UUM and foreign institutions such as Institute Teknologi Bandung Indonesia.

AMTECH manages its quality operations through the ISO:9001(2008) and HSE through the ISO: 18001(2006) certified two years ago. At the same time, AMTECH has for the past three years attained four star rating from SME Corp. and registered as a TERAS company with TERAJU a Government initiative to support SMEs in the oil and gas industry.

After 15 years of sustaining the challenges of the industry, AMTECH is proud that it is able to stand at par with the foreign competitors, able to develop its own products and gearing its investments for Enhanced Oil Recovery and Deep Water projects. It plans to list on the bourse by 2020.

OBJECTIVE:

The objective of this document is to present the evolution of AMTECH Chemical Sdn. Bhd. from inception in to a business organization competing in the global market.

VISION AND MISSION:

Since its incorporation in Feb. 1999, AMTECH has established its vision and mission as:

Our Vision:

“Aspire in the innovation of new emerging enterprises for local and global”

Our Mission:

- Generate the flow of dynamic ideas
- Creativity that will promote innovations
- New emerging enterprises

INDUSTRY SCENARIO

The oil and gas industry is a maturing industry and has made tremendous transformation in particular the chemicals with changing field parameters, deeper reservoirs and re-inventing of enhanced oil recovery initiatives.

Chemical and service companies similarly have to quickly respond to the changes in the environment and invest accordingly, in more manpower training, R & D and technology. This become some of the constraints of smaller companies such as AMTECH while bigger foreign companies merge in the global markets to further form an unofficial cartel and oligopolies.

Without the support and opportunities by local oil companies, the growth of local chemical companies is on the downward trend. The removal of the Vendor Development Program, further aggravate the condition and competitiveness of local companies as the trend shows.

Smaller companies such as AMTECH, has to innovate and be creative to sustain and keep up with the challenges to its existence. We have to resort to strategic alliances with local and

foreign parties, sharing the resources and knowledge through MOUs with local universities and research institutions.

The business perspective for local chemical companies are gloomy, to say the least. But injection of investment and sustaining the above strategies will enable AMTECH to stay afloat and provide the remaining competition for the large multinationals.

AMTECH BUSINESS:

CHEMICAL FORMULATION AND PRODUCTION

AMTECH formulate solutions to solve the oil and gas industry specific problems by sending its technical team to take samples off shore and perform tests both at its own lab and collaborative research centre to resolve their problems be it corrosion, scaling, water quality, b s & w challenges as well as other problems such as bacteria infestations or high water cut.

More often, AMTECH will produce the lab scale solutions and send its technical team off-shore to perform field trials prior to manufacturing the products prior to actual application. Follow up service is performed by the field team, to monitor and record the chemical performance over time and report back for improvements and development. AMTECH also perform optimization to ensure the products used are the most appropriate dosage and effectiveness.

Field surveillance is another aspect of AMTECH capabilities in which most of its trained local staff are exposed on the job and are often sent for OJT for more enhance competencies.

AMTECH Logistics team ensure that products delivered are properly packed, labeled and weighed to ensure that they comply to the client standards. It is pertinent that the deliveries arrive on time as it is critical to the clients" production programs.

AMTECH has its own blending plant comprising four 2.5tons vessels complete with scrubbers and water system with production capacity of 100 MT per day. It has a competent production team comprising Supervisor and Technicians.

Product	Code	Purpose
Degreaser	AMTECH 100 Series	Cleaning and removal of stains, rusts and dirt from pipelines, rigs, turbines and electrical systems.
Scale inhibitor	AMTECH 1000 Series	Remove and provide protection in pipelines against scaling.
Corrosion inhibitor (F)	AMTECH 1500 Series	Remove and provide protection against corrosion associated inorganic salts. There is 3 in 1 chemical for multifunctional use for tank and pipeline.
Corrosion inhibitor (G)	AMTECH 1500 Series	Provide protection in high temperature and pressure system. There is 3 in 1 chemical for multifunctional use for tank and pipeline.
Demulsifier	AMTECH 2000 Series	Reduce water and enhance crude calorific value and higher sales.
Deoiler/ Water Clarifier	AMTECH 2500 Series	Enhance liquid solid separation in a wide variety of industrial applications.
Sludge Treatment	AMTECH 4000 Series	Separate hydrocarbon sludge to recover oil, discharge water to DOE standards and debris as a conservation and value adding initiative.
Biocides	AMTECH 5000 Series	Protect the pipeline material from biological infestation and growth.
Wax/Asphaltenes	AMTECH 6000 Series	Prevent deposition of waxes in production area, storage and transport of crude pipelines, for flow improvement.
Decontaminants	AMTECH 7500 Series	Eliminates toxic gases and flammable items from pipelines, tanks and vessels. There is oil spill chemical in this product series.
Oxygen Scavenger	AMTECH 8000 Series	Eliminates and absorb oxygen for protection tank and pipeline from corrosion.

TECHNICAL MANPOWER

Led by the Managing Director, who is a Chemist himself, the General Manager oversees the overall operations comprising the HSE Personnel, QAQC Personnel, the Production Team, the Field Team and Laboratory staff.

AMTECH ensures its standards for quality by certifying itself to ISO; 9001:2015 and HSE by certifying to OHSAS 18001:2007 and regularly carry out its audits as required by the clients.

Safety is premium in the oil and gas industry and AMTECH is committed to ensure compliance with its 500 000 manhours without LTI as of December 2016.

AMTECH also works closely with the regulatory authorities such the DOE, DOSH, Local PBTs, FIRE Dept. and Chemistry Dept. (HEALTH).

AMTECH CHEMICAL SDN. BHD.
 PLO 585, JALAN MEL 2 OFF JALAN KELULI 9
 KAWASAN PERINDUSTRIAN PASIR GUDANG
 TEL : 607 - 2544 500 / 501 FAX : 607 - 2544 502

LOST TIME ACCIDENT FREQUENCY RATE SUMMARY

The "Lost Time Accident Frequency Rate" (LTAFR) identifies the number of lost time accidents, which occur in every 200,000 manhours worked and is calculated as follows:

$$\frac{\text{Number of LTAs} \times 200,000}{\text{Total Manhours Worked}} = \text{LTAFR}$$

YEAR	HOURS WORKED (PG)	NUMBER EMPLOYED	FATALITY	LOST TIME INJURY	RESTRICTED WORK CASES	MEDICAL TREATMENT CASES	FIRST AID	PROPERTY / EQUIPMENT DAMAGE	FIRE / EXPLOSION	POLLUTION INCIDENT	NEAR MISS INCIDENT	LTAFR BASED ON 200,000 HOURS	HOURS WORKED (PMO)	PMO (Offshore)	HOURS WORKED (SBO)	SBO (Offshore)	HOURS WORKED (SKO)	SKO (Offshore)	HOURS WORKED (KLO)	TOTAL MHOURS
Jan-16	2,720	17	0	0	0	0	0	0	0	0	0	0	1,440	768	960	336	320	252	320	5,760
Feb-16	2,856	17	0	0	0	0	0	0	0	0	0	0	1,512	192	1,008	336	336	216	336	6,048
Mar-16	2,992	17	0	0	0	0	0	0	0	0	0	0	1,408	0	1,056	264	528	240	352	6,336
Apr-16	2,856	17	0	0	0	0	0	0	0	0	0	0	1,344	324	1,008	264	504	120	336	6,048
May-16	2,856	17	0	0	0	0	0	0	0	0	0	0	1,176	300	1,008	264	504	108	336	5,880
Jun-16	2,720	17	0	0	0	0	0	0	0	0	0	0	1,120	144	960	216	480	336	320	5,600
Jul-16	2,584	17	0	0	0	0	0	0	0	0	0	0	1,064	168	912	0	456	252	304	5,320
Aug-16	2,992	17	0	0	0	0	0	0	0	0	0	0	1,232	132	1,056	0	528	168	352	6,160
Sep-16	2,584	17	0	0	0	0	0	0	0	0	0	0	1,064	144	608	0	456	600	304	5,016
Oct-16	2,584	17	0	0	0	0	0	0	0	0	0	0	1,064	192	608	0	456	240	304	5,016
Nov-16	2,856	17	0	0	0	0	0	0	0	0	0	0	1,176	108	672	0	504	192	336	5,544
Dec-16	2,720	17	0	0	0	0	0	0	0	0	0	0	1,120	96	640	0	480	216	320	5,280
TOTAL	33,320	17	0	0	0	0	0	0	0	0	0	0	14,720	2,568	10,496	1,680	5,552	2,940	3,520	68,008
													TOTAL (2007 - 2016)						519,988	
													(PG/PMO/SKO/SBO)							

- 33,320
■ Lost Time Injury
■ Injurious - Non LTI
■ Non Injurious

ENGINEERING / LABORATORY SERVICES

To ensure completeness of the business, AMTECH provides engineering services such as Tote Tanks supply and management, IBCs, drums as well as Chemical Injection Skids should they be required by the clients.

AMTECH also equip its staff on field assignments with equipments to be used to take measurements, samples and mobile kits to facilitate their work. All field employees are also equipped with the required personal protection equipment to ensure that they are consistently safe on the job. These employees are protected by Medical Hospitalization and Insurance.

It is also important that tests and analyses are done promptly and correctly. At each technical office located all over the country, adequate lab equipment, storage and basic blending facilities are provided. These are further strengthened by more sophisticated equipments at the Head Office such as FTIR, GC and others.

AMTECH engineering needs are further reinforced by the support from collaborative industry partner overseas as well as MOUs with local IPTSs such as UTP, UTM, UUM, UMP and Institut Teknologi Bandung in Indonesia.





CIVIL ENGINEERING&TECHNICAL SERVICES

AMTECH provides engineering, design and support including supply and delivery of materials tools, equipment and labour for installation/construction/erection, completion and maintenance of general civil works.

AMTECH has participated in the RAPID Project in PFCC1 and we have employed 70 manpower which capable of various expertise to carry out the said project.





AMTECH also has extended their services for fabrication and our manpower and facilities deliver a comprehensive and integrated design, procurement, construction and fabrication service.

Our custom fabrication and installation of metal and steel product, including piping and vessels.



TRADING

To comprehensively meet the demands of the clients, AMTECH are often required to quote and supply for commodities and equipments relating to the chemical business such as Tri Ethyl Glycol (TEG), Biocides, Soda Ash and Acids. These products are imported and are not produced in Malaysia because of the economies of scale.



TECHNOLOGY PLAN:

AMTECH growth strategies evolve around a 15 years three phase technology plan commencing 2005 to 2010 in Phase 1, 2010 to 2015 in Phase 2 and 2015 to 2020 in Phase 3. Each Phase will take five year to achieve and it plots product development, time and sales as active parameters.

The graphics below shows the Technology Plan now at the end of its second phase and summary of its variables achieved to date and what is plan ahead. It gives AMTECH a purpose and direction to pursue as in below.

The Technology Plan also shows how important for AMTECH to achieve sales through contract award, procurement of equipment, training and product testing which necessitate reinjection of funds into the operations to fund the technology plan and create a viable business cycle, achieving the objectives in the most economical way.

COMPANY PARTICULARS:

JOHOR Main Operation Office and Factory

PLO 585, Jalan MIEL 2 Off Jalan Keluli 9, Kawasan Perindustrian Pasir Gudang, 81700 Pasir Gudang, Johor.

Tel :607-254 4500 / 4501 Fax: 607- 254 4502

Contact Person : Abu Supian bin Zainal (General Manager)

Operations Mobile No.: 016-772 3492

Kemaman Supply Base Warehouse and Sales/ Technical Service Office

AMTECH Chemical Sdn Bhd, Warehouse 33, Door 1, Phase 2, Kemaman Supply Base, 24007 Kemaman, Terengganu.

Contact Person : Mohd Azim bin Abdul Rahman

Mobile No. : 019-791 7966

Kota Kinabalu Sales / Technical Service Office

Level 2,1st floor Suite 2008, West Wing, Wisma 2020, 18 Lorong Belia, Karamunsing 88100, Kota Kinabalu, Sabah.

Tel : 088-230545

Contact Person : Fitzer Ford Anastasius Odoi

Mobile No. : 019-722 9447

Labuan Warehouse and Sales / Technical Service Office

No. 38, Industri Kecil dan Sederhana (IKS), Kg Ranca-Ranca, 87000 Wilayah Persekutuan, Labuan.

Tel : 6087- 427 277

Contact Person : Roslan Mat Yakop

Mobile No. : 016-721 3494

Miri Sales / Technical Service Office

2nd Floor, Lot 1422 (Sublot 23), Ranca-Ranca Industrial Area, Parent Lot 991, Block Miri Concession Land District, 98000 Miri, Sarawak

Tel : 6085-657120

Contact Person : Fitzer Ford Anastasius Odoi

Mobile No. : 019-722 9447

Bintulu Warehouse and Sales / Technical Service Office

No. 21, Block 10, Lot 2544, Kidurong Gateway, Kemena Land District, Jalan Kidurong, Kidurong Industrial Area, 97000, Bintulu, Sarawak

Contact Person : Roslan Mat Yakop

Mobile No. : 016-721 3494

Kuala Lumpur Sales Office

B2-5-3A, Solaris Dutamas, No. 1 Jalan Dutamas 1, 50480 Kuala Lumpur, MALAYSIA.

Tel: +603-6211 4490 Fax: +603-6211 4493

Contact Person : Zakaria Mohd Nor

Mobile No. : 013-388 1214

REGISTRATION / LETTERS OF SUPPORT:



Ministry of Finance (MOF): since 1999.



PETRONAS License : since 2001 and awarded Restricted Bumiputera Category since 2007



MATRADE: since 2011. Adopted under BWEDP to promote our products overseas participated in the trade missions since 2011.



TERAJU: Adopted as TERAS Company since 2013 and participated actively in their meetings.



SME Corporation: for the past three years accorded for star rating.



Royal Malaysia Customs License : Sales Tax ACT 1972 since 2010.



OHSAS 18001: 2007, Certificate No. 4411614920006



ISO 9001: 2015, Certificate No. AR4616



Registration No:0120071004-JH115448

MOU'S WITH LOCAL UNIVERSITY IN MALAYSIA :



MoU with Universiti Teknologi Malaysia since 2010



MoU with Universiti Teknologi PETRONAS (UTP) since 2011.



MoU with Universiti Utara Malaysia (UUM) since 2012



PETRONAS License
License No : L-476724-W
License Period : 16 July 2017 to 15 July 2020

Categories of License / Registration:



COMPANY'S NAME : AMTECH CHEMICAL SDN BHD (476724-W)
LICENSE NO : 476724-W
LICENSE PERIOD : 16.07.2017 - 15.07.2020

CATEGORIES OF LICENSE / REGISTRATION					
APPROVED LICENSE CATEGORIES					
L/R/PROVISIONAL	Service / Supplier Code	Mode of Operation	Principal Name (If Applicable)	Approval Date / Time	Expiry Date
LICENSE	PC1041100 CHEMICAL-CUSTOMIZED CHEMICALS -PRODUCTION CHEMICALS	MANUFACTURER	NOT APPLICABLE	30.05.2017 18:44:05	15.07.2020
LICENSE	PC1041200 CHEMICAL-CUSTOMIZED CHEMICALS -INTEGRITY CHEMICALS (Reclassified from PC1040200-BIOCIDES/SRB CTRL_PC1040300-CHEMICALS-CORROSION INHIBITOR and/or PC1070600-CHEMICALS-CORROSION INHIBITOR)	MANUFACTURER	NOT APPLICABLE	30.05.2017 18:46:57	15.07.2020
LICENSE	PC1070100 CHEMICALS-INDUSTRIAL CHEMICALS-INDUSTRIAL DETERGENT	DEALER	NOT APPLICABLE	19.05.2017 12:16:57	15.07.2020
LICENSE	PC1070400 CHEMICALS-INDUSTRIAL CHEMICALS-DEGREASSING AGENT	MANUFACTURER	NOT APPLICABLE	07.11.2017 10:16:46	15.07.2020
LICENSE	PC1090100 CHEMICAL-COMMON CHEMICALS-COMMODITY CHEMICALS	DEALER	NOT APPLICABLE	19.05.2017 12:16:58	15.07.2020
LICENSE	SC2010100 CIVIL MAINT SERV-ONSHORE SITE PREPARATION	SELF-OPERATED	NOT APPLICABLE	10.01.2018 14:28:01	15.07.2020
LICENSE	SC2030500 CIVIL MAINT SERV-BUILDING & STRUCTURE CONST(RECLASSIFIED FROM PO1520000-OFFICE OPERATIONAL EQUIP-CANOPY, SHED&AWNING)	SELF-OPERATED	NOT APPLICABLE	08.01.2018 20:01:36	15.07.2020
LICENSE	SC2080000 CIVIL MAINT SERV-SCAFFOLDING SERV & INSPECTION	SELF-OPERATED	NOT APPLICABLE	08.01.2018 20:01:37	15.07.2020
LICENSE	SH2010101 HSE & SECURITY-ON-SITE SCHEDULED WASTE TREATMENT	SELF-OPERATED	NOT APPLICABLE	19.05.2017 12:16:58	15.07.2020
REGISTRATION	SM5010104 MECHANICAL ENG MAINT-STATIONARY EQUIP REPAIR&MAINT-STORAGE TANK-INTERMEDIATE BULK CONTAINERS	SELF-OPERATED	NOT APPLICABLE	22.05.2017 19:49:05	15.07.2020
LICENSE	SM5120100 MECHANICAL ENG MAINT-HOT INSULATION	SELF-OPERATED	NOT APPLICABLE	05.02.2018 13:32:40	15.07.2020
LICENSE	SM5120200 MECHANICAL ENG MAINT-COLD INSULATION	SELF-OPERATED	NOT APPLICABLE	05.02.2018 13:32:41	15.07.2020
LICENSE	SM5120300 MECHANICAL ENG MAINT-ACOUSTIC INSULATION WORK	SELF-OPERATED	NOT APPLICABLE	05.02.2018 13:32:42	15.07.2020
LICENSE	SM5120400 MECHANICAL ENG MAINT-PERSONNEL PROTECTION INSULATION	SELF-OPERATED	NOT APPLICABLE	22.01.2018 17:26:26	15.07.2020

CATEGORIES OF LICENSE / REGISTRATION					
APPROVED LICENSE CATEGORIES					
L/R/PROVISIONAL	Service / Supplier Code	Mode of Operation	Principal Name (If Applicable)	Approval Date / Time	Expiry Date
LICENSE	SP1040103 PIPELINE & ASSOCIATED SERV-PIPELINE MAINTENANCE-PIPELINE CLEANING, INSPECTION & REPAIR-PIPELINE INSPECTION & REPAIR-ONSHORE PIPELINE INSPECTION&REPAIR	SELF-OPERATED	NOT APPLICABLE	19.05.2017 12:16:58	15.07.2020
LICENSE	SP1040105 PIPELINE & ASSOCIATED SERV-PIPELINE MAINTENANCE-PIPELINE CLEANING, INSPECTION & REPAIR-PIPELINE INSPECTION & REPAIR-OFFSHORE PIPELINE INSPECTION&REPAIR	SELF-OPERATED	NOT APPLICABLE	19.05.2017 12:16:58	15.07.2020

OUR FUTURE BUSINESS:

Up-stream Products and Services

- Water Injection Chemical
- Downhole
- EOR

Down-stream Products and Services

- Tank/ Vessel Chemical Cleaning&Desludging
- Water treatment
- Decontamination & Mercury Integrated Services
- Glycol Reclamation
- Engineering Services
- Tank cleaning Services

CONCLUSION:

AMTECH Chemical has evolved over 19 years and driven by its Technology Plan and close financial and management control, it is able to achieve its set plans and coordinate its efforts in marketing with prudent spending.

AMTECH is poised to achieve its ambition of breaking the RM50 to 100.0m barrier and listing before 2020 as Malaysia arrives at its National Vision set by the former Prime Minister Tun Dr. Mahathir Mohamad.

It goes to prove that with a concerted effort by entrepreneurs working in close collaboration with the oil company, local companies can compete healthily with global players as it enter the lucrative international market.



CATEGORY	PRODUCT CODE
UCARSOL	<ul style="list-style-type: none"> • UCARSOL HS 101 - Formulated methyldiethanolamine (MDEA) • UCARSOL HS 102 - Alkanolaminemixture • UCARSOL HS 103 - Alkanolaminemixture • UCARSOL AP 802 - Amine mixture • UCARSOL AP 810 - Formulated amines: 2,2'-(methylimino) diethanol; N-ethyldiethanolamine; piperazine • UCARSOL AP 814 - Formulated amines: 2,2'-(methylimino)diethanol; N-ethyldiethanolamine; piperazine
TERGITOL	<ul style="list-style-type: none"> • TERGITOL NP-4 - Nonylphenol polyethylene glycolether (EO mole = 4) • TERGITOL NP-8 - Nonylphenol polyethylene glycolether (EO mole = 8) • TERGITOL NP-9 - Nonylphenol polytheylene glycolether (EO mole = 9) • TERGITOL NP-10 - Nonylphenol polytheylene glycolether (EO mole = 10) • TERGITOL L-3 - Ethoxylated primary alcohol (EO mole = 3) • TERGITOL L-5 - Ethoxylated primary alcohol (EO mole = 5) • TERGITOL L-7 - Ethoxylated primary alcohol (EO mole = 7)
CARBOWAX	<ul style="list-style-type: none"> • CARBOWAX PEG300 - Polyethylene glycol (EO mole = 6) • CARBOWAX PEG600 - Polyethylene glycol (EO mole = 12) • CARBOWAX PEG1000 - Polyethylene glycol (EO mole = 20)
COMMODITY PRODUCT	<ul style="list-style-type: none"> • Butyl CARBITOL - Butyl diglycolether • Butyl CELLOSOVE - Butyl glycolether • B260 - Butoxytriglycol • MEG - Mono Ethylene Glycol • Ethanolamines • DEA - Diethanolamine • TEA - Triethanolamine • Methanol • <i>iso</i>-Butanol

CATEGORY	PRODUCT CODE
BIOCIDE (AMTECH 5000 SERIES)	<ul style="list-style-type: none">• AMTECH 5000• AMTECH 5001
POUR POINT DEPRESSANT (AMTECH 6000 SERIES)	<ul style="list-style-type: none">• AMTECH 6030• AMTECH 6100
DECONTAMINANT (AMTECH 7000 SERIES)	<ul style="list-style-type: none">• AMTECH 7500• AMTECH 7501
SCAVENGER (AMTECH 8000 SERIES)	<ul style="list-style-type: none">• AMTECH 8000• AMTECH 8002
FLOURESCENT DYE (AMTECH 9000 SERIES)	<ul style="list-style-type: none">• AMTECH 9000

CATEG	RY	PRODUCT CODE	DESCRIPTION / PURPOSE
DEGREASER		AMTECH 106 (Quick Dry)	AMTECH 106 is a solvent-based general purpose-cleaning compound, formulated with a unique blend of surfactants and organic cleaners. This unique blend of chemistries makes the removal of lubricant deposits easy and suitable for lubricant plant. Excellent for cleaning bi-metal lugs, bus-bars, fuse holders and most bare metal cores or parts safely to enhance their efficiency and conductivity. This product is also a non-flammable liquid, environmentally friendly and safer to handle it.
		AMTECH 107	AMTECH 107 is an effective and safe All- purpose Cleaner & Degreaser for use on any surface compatible with water. Its contains and uses the hyperactive colloidal particles (micelles) to penetrate and dislodge fat, oil, grease, protein and sugar from surfaces. AMTECH 107 simply work by causing organic substance containing hydrocarbon molecules to repel from the surface, be suspended within the cleaning solution and easily removed by rinsing with water.
		AMTECH 110 (Multipurpose Cleaner Heavy Duty)	AMTECH 110 is oil and grease stains removal cleaner, formulated for efficient oil platform cleaning with low foaming characteristic. AMTECH It consists of biodegradable non-ionic surfactants to deal with various extent of cleaning requirement range from light to heavy duty. The product shows good degreasing performance on hard metal surface without causing any corrosion and damaging to the applied surface due to the mild formulation. Using high pressure washer, the rig wash capable to clean small and narrow areas where brusher hardly each to sweep and wipe away the contaminated stains.
		AMTECH 111 (Multipurpose Cleaner Light Duty)	AMTECH 111 is an aqueous-based detergent consists of proprietary blend of non-ionic surfactants which is readily biodegradable. It provides good degreasing performance on hard surface and develops low foaming during washing that benefits cost and energy saving in rinsing step. Due to its low surface tension characteristics, this product capable to provide good wetting and degreasing properties without causing any corrosion and damaging to applied surface.
		AMTECH 114	AMTECH 114 is is an aqueous-based detergent consists of proprietary blend of non-ionic surfactants which is readily biodegradable. It provides good degreasing performance on hard surface and develops low foaming during washing that benefits cost and energy saving in rinsing step. Due to its low surface tension characteristics, this product capable to provide good wetting and degreasing properties without causing any corrosion and damaging to applied surface.
		AMTECH 115	AMTECH 115 is a green based, biodegradable industrial and institutional (I&I) multi-purpose cleaner, targeted on cleaning of light to heavy oil contamination on metal surface. Emulsion based characteristics of AMTECH 115 clean oily soiled surface thermodynamically with minimum work required thus help to save energy and time consumption for additional mechanical washing such as scrubbing, brushing and wiping. Stubborn oil stained is effectively removed by AMTECH 115 by three simple steps: wetting, emulsification and solubilization, consequently leave the surface clean, spotless after rinsing with water.
		AMTECH 140 (Hand Wash)	AMTECH 140 is an effective solvent free soap with unique ecologic formulation. Extremely efficient and soft for hand. It clears all kind of dirt on hands. Gentle to the human skin yet effectively removes grease and other tough stains. It contains and uses the hyperactive colloidal particles (micelles) to penetrate and dislodge fat, oil, grease, protein and sugar from surfaces. AMTECH 140 simply work by causing organic substance containing hydrocarbon molecules to repel from the surface be suspended within the cleaning solution and easily removed by rinsing with water.

CATEG	RY	PRODUCT CODE	DESCRIPTION / PURPOSE
DEFOAMER		AMTECH 600	AMTECH 600 is the polymer of propylene glycol. Chemically it is a polyether. The term polypropylene glycol is reserved for low to medium range molar mass polymer when the nature of the end-group, which is usually a hydroxyl group, still matters.
		AMTECH 610	AMTECH 610 is a low foaming surfactant that will lower the surface tension of foams, thus causing the foam bubbles to break up and those beneath the surface to grow to the point where they are large enough to float to the surface and break. It suppresses foam during preparing drilling fluid with additives in all types of water based mud including near salt saturated water.
		AMTECH 630	AMTECH 630 is a mixture of non ionic surfactant which forming an antifoam product which has been developed for use in the oil and gas industry to solve foaming problems in the following systems: <ul style="list-style-type: none"> • Sea water deaeration towers • Water systems in general
		AMTECH 660	AMTECH 660 is a solution of highly concentrated sulfonate salt used effective in aqueous or low water applications and also in oil and gas separation. The product accelerates the release of dissolve gases, reduces foam carryover and increases separation efficiency.
DESCALER		AMTECH 1080	AMTECH 1080 is a blend of non-hazardous, non-corrosive, biodegradable descaler. It is designed to remove carbonate (CO ₃) based deposits. It also has the ability to dissolve and remove deposits caused by corrosion byproducts (e.g.: Iron Carbonate, Zinc Carbonated). It is designed to dissolve carbonate deposits found in all types of water operated equipment such as boilers, cooling towers including galvanized towers, closed loops, heat exchangers and aluminum molds.
		AMTECH 1081	AMTECH 1081 is a blend of an aqueous salt solution and as such, it should not be considered hazardous when used under normal conditions. Laboratory testing shows this material to be biodegradable. This biodegradable product is very efficient in removing a scale, rust and marine growth from heat exchangers, boilers, outboard motors, heating systems, car engine maintenance and etc.
		AMTECH 1082	AMTECH 1082 is a blend of an aqueous salt solution and as such, it should not be considered hazardous when used under normal conditions. Laboratory testing shows this material to be biodegradable. This biodegradable product is very efficient in removing a scale, rust and marine growth from heat exchangers, boilers, outboard motors, heating systems, car engine maintenance and etc.

CATEG	RY	PRODUCT CODE	DESCRIPTION / PURPOSE
SCALE INHIBITOR		AMTECH 1100	AMTECH 1100 is a specialized blend of phosphonate based water soluble scale inhibitors suitable for high temperature and high pressure environment. It is an excellent Calcium Carbonate, Calcium Sulfate and even Barium and Strontium Sulfate inhibitor suitable for applications where the mentioned mineral scales are a problem. The product is an excellent threshold inhibitor with added sequestering function, making it suitable also for Iron deposit inhibition.
		AMTECH 1153	AMTECH 1153 is concentrated water and brine soluble organic phosphonate developed for formulating scale inhibitors for use in water flood operations, water disposal systems and producing oil wells. Formulations with AMTECH 1153 are highly effective in inhibiting both Calcium Carbonate and Sulfate scale formation by interruption of the crystal growth process. AMTECH 1153 exhibits excellent thermal stability.
CORROSION INHIBITOR		AMTECH 1554	AMTECH 1554 is a water-soluble, oil dispersible corrosion inhibitor that offers excellent protection from both CO ₂ and H ₂ S corrosion. It is effective in oil production conditions.
		AMTECH 1555	AMTECH 1555 is a blend on an Imidazoline salt that produces a very effective and stable film on downhole and process surfaces, together with a novel Amine derivative, which improves the water solubility of the product. It is a water-soluble, highly oil dispersible organic corrosion inhibitor. It has been designed for use in pipelines and production equipment for the protection of oil and gas process systems. Being water soluble, AMTECH 1555 corrosion inhibitor will effectively protect water-treatment facilities downstream of production equipment. AMTECH 1555 inhibitor has been specifically developed for high shear applications, typically found in gas systems. It is an effective corrosion inhibitor against both sweet, CO ₂ and sour, H ₂ S corrosion.
		AMTECH 1556	AMTECH 1556 is oil-soluble, water-dispersible, film forming corrosion inhibitor for use in gas-production systems and is effective against both "sweet" and "sour" corrosion. AMTECH 1556 inhibitor is specifically designed for continuous injection in gas transmission lines, gas storage systems and especially where it is likely to come in contact with gas compression units. The product at high temperatures without gunking in the system. It promotes removal of fouling material in gas compressors, prevents additional fouling and inhibits the corrosion process.
		AMTECH 1557	AMTECH 1557 is oil-soluble, water-dispersible, film forming corrosion inhibitor for use in gas-production systems and is effective against both "sweet" and "sour" corrosion. AMTECH 1557 inhibitor is specifically designed for continuous injection in gas transmission lines, gas storage systems and especially where it is likely to come in contact with gas compression units. The product at high temperatures without gunking in the system. It promotes removal of fouling material in gas compressors, prevents additional fouling and inhibits the corrosion process.
		AMTECH 1558	AMTECH 1558 is a corrosion inhibitor base developed especially to meet the needs of the oil and gas industry. AMTECH 1558 is a high quality based Imidazoline that has the potential to be formulated to meet a broad spectrum of inhibitor requirements. AMTECH 1558 formulations will provide excellent protection in most treating environments. Depending upon the method of preparation, AMTECH 1558 formulations are effective in producing well, pipeline and water handling applications.

CATEGORY	PRODUCT CODE	DESCRIPTION / PURPOSE
CORROSION INHIBITOR	AMTECH 1559	AMTECH 1559 is a water-soluble, highly oil dispersible organic corrosion inhibitor. It is a blend of an Imidazoline salt with other surfactants. It has been formulated to prevent CO ₂ and H ₂ S corrosion in pipelines and production equipment in oil and gas process systems. AMTECH 1559 has been specifically developed for high shear applications, typically found in gas systems. Furthermore, in testing performed by an independent laboratory, 50 ppm of AMTECH 1559 has reduced the corrosion rate to <i>less than 0.1 mm/yr at temperatures up to 120 °C under both sweet (3 bar CO₂) and sour conditions (1 bar H₂S).</i>
	AMTECH 1560	AMTECH 1560 is oil-soluble, water-dispersible, film forming corrosion inhibitor for use in gas-production systems and is effective against both "sweet" and "sour" corrosion. AMTECH 1560 inhibitor is specifically designed for continuous injection in gas transmission lines, gas storage systems and especially where it is likely to come in contact with gas compression units. It also provides excellent protection making it an ideal product for downhole treating. The product performs at high temperatures without gunking in the system. It promotes removal of fouling material in gas compressors, prevents additional fouling and inhibits the corrosion process. AMTECH 1560 inhibitor contains film-forming Amines and a demulsifier in an aromatic/aliphatic solvent system. <i>It is thermally stable up to 350 °F (177 °C).</i>
DEMULSIFIER	AMTECH 2005	AMTECH 2005 is a demulsifiers which are very effective synergistic blends of high molecular weight oxyalkylated glycols, oxyalkylated resins and amines in heavy aromatic solvent. The actual formulations of AMTECH 2005 will be based on bottle tests conducted on actual fresh crude samples. Any dilutions of AMTECH 2005 Series should be made using an aromatic solvent.
	AMTECH 2010	AMTECH 2010 is very effective synergistic blends of high molecular weight oxyalkylated glycols, oxyalkylated resins and amines in heavy aromatic solvent. The actual formulations of AMTECH 2010 will be based on bottle tests conducted on actual fresh crude samples. Any dilutions of AMTECH 2010 Series should be made using an aromatic solvent.
DEOILER	AMTECH 2552	AMTECH 2552 dispersions are low to medium molecular weight, water soluble, cationic, acrylamide-based copolymers supplied as oil free dispersions of polymer in water. They are effective over a pH range of 3 – 10. Its dispersions can be used to treat waste water produced by a wide variety of oil industry operations. It functions by bridging between oil droplets and/or suspended solids to form a large agglomerated mass or floc which can be easily removed. It can be effectively utilized in a broad range of liquid-solid separation processes.
	AMTECH 2553	AMTECH 2553 is a solution of an anionic polymer for use as a metal precipitating agent. It is effective over the pH range of 3 – 10.
	AMTECH 2555	AMTECH 2555 is a high molecular weight, acrylic emulsion copolymer for use as a flocculant in oilfield water clarification. The product is supplied in an acidic form and requires neutralization before use. Its functions by reducing the repulsive surface charges on oil droplets and certain organic and inorganic particulates found in produced oilfield waters. This helps promote the formation of a larger floc and improves settling or filtration rates. It is often used in conjunction with inorganic coagulants or cationic polyelectrolytes.

CATEG	RY	PRODUCT CODE	DESCRIPTION / PURPOSE
DEOILER		AMTECH 2557	AMTECH 2557 is high molecular weight polymer with high charge polymer. They are applied to the wastewater containing great quantity of organic colloid such as the wastewater from dyeing, papermaking, and petroleum industries.
		AMTECH 2560	AMTECH 2560 dispersions are low to medium molecular weight, water soluble, cationic, acrylamide-based copolymers supplied as oil free dispersions of polymer in water. They are effective over a pH range of 3 – 10. Its dispersions can be used to treat waste water produced by a wide variety of oil industry operations. It functions by bridging between oil droplets and/or suspended solids to form a large agglomerated mass or floc which can be easily removed. It can be effectively utilized in a broad range of liquid – solid separation processes such as settling, thickening, dissolved air flotation and centrifugation.
BIOCIDE		AMTECH 5000	<p>AMTECH 5000 is water-soluble concentrated biocide for use in oil, water and gas production. It also recommended for used in open recirculating water system. AMTECH 5000 is glutraldehyde based compound and posses the following special properties:</p> <ul style="list-style-type: none"> • Able to remove established biofilm and inhibit re-growth • Broad spectrum biocide kills aerobic and anaerobic microorganism, including sulphate-reducing bacteria • Kills algae and remove algae deposits • Effective in broad range of pH and temperature • Fast acting • Odorless and non-corrosive to metals at recommended use level • Chemically compatible with common corrosion and scale inhibitor and dispersant • Surface action facilitate penetration to microorganisms protected bybiologically or chemical induced fouling • Water soluble, easy to mix and dilute uniformly
		AMTECH 5001	AMTECH 5001 is a new class of anti-microbacterial agent which offers superior anti-microbacterial activity controlling the growth of bacteria, algae and fungi, with <i>minimum effects on the environment</i> . AMTECH 5001 is THPS based compound. THPS's benefits include low toxicity, low dosage and rapid breakdown in the environment.
POUR POINT DEPRESSANT		AMTECH 6030	AMTECH 6030 is the pour point depressant which especially developed for the treatment of crude oils. It is used to lower the pour point by acting directly on the paraffinic crystal growth. In addition, its molecular structure provides excellent dispersing properties allowing the paraffinic microcrystal to remain in suspension. In this respect, AMTECH 6030 prevents paraffin deposition.
		AMTECH 6100	AMTECH 6100 is one of the pour point depressant which especially developed for the treatment of crude oils. It is used to lower the pour point by acting directly on the paraffinic crystal growth. In addition, its molecular structure provides excellent dispersing properties allowing the paraffinic microcrystal to remain in suspension.

CATEGORY	PRODUCT CODE	DESCRIPTION / PURPOSE
DECONTAMINANT	AMTECH 7500	<p>AMTECH 7500 is a specifically formulated chemical that will eliminate toxic gases and hydrocarbon vapor during plant turnaround and storage tank decontamination. AMTECH 7500 is water soluble and contains alcohol ethoxylate based compound with special enzymes cultured in the complex detergent system. It is effective in removing contaminants produced by various systems in oil/gas production and petrochemical plants.</p> <p>It is extremely fast acting and works by converting hydrogen sulfide and hydrocarbon vapor into water-soluble compound with low Chemical Oxygen Demands (COD). AMTECH 7500 will deactivate phyroporic materials such as iron sulfide and polymers during decontamination thus dramatically reducing the risk phyrophoric oxidation and ignition of ambient hydrocarbon-air mixtures.</p> <p>AMTECH 7500 cleans the walls of a vessel and leaves a microscopic surfactant film preventing the release of vapor from any scale that may remain. This is vital when there are traces of mercury in the system.</p>
	AMTECH 7501 (Mercury Decontaminant)	<p>AMTECH 7501 is a formulated chelating agent, designated to transform elemental and compound mercury found in vapor into stable mercury salt in an aqueous form. It is a powerful solution that is able to capture mercury vapor from the atmosphere. AMTECH 7501 is formulated to function aggressively at both elevated and ambient temperatures. The product contains additives to ensure compatibility with various system, materials and various application methods.</p>
SCAVENGER	AMTECH 8000 (H2S Scavenger)	<p>AMTECH 8000 is the H2S gas scavengers which remove hydrogen sulfide (H2S) from process systems to improve safety, protect equipment and meet sales specifications.</p> <p>For safe, effective removal of H2S in ranges from 1-to-200 pounds per day, AMTECH 8000 are available in a variety of formulations for complete and partial H2S removal in oil- and water-soluble applications. Where scavenger-induced calcium carbonate scaling is a problem, and it provides an effective scale inhibitor.</p>
	AMTECH 8002 (Oxygen Scavenger)	<p>AMTECH 8002 is a solution of highly concentrated ammonium bisulfite used to effectively remove dissolved oxygen to trace level at low operating temperature. The product is highly effective in minimizing the effect of oxygen corrosion in various industrial applications with or without mechanical deaeration units.</p>
FLOURESCENT DYE	AMTECH 9000	<p>AMTECH 9000 is specializes in the provision of subsea leak detection services for the offshore pipeline industry. It help to prevent serious environmental damage by promptly detecting the leakage of hydrocarbons - whether gas or oil - from risers, subsea control systems, water injection systems and other subsea facilities. This product is capable of detecting very small leaks and has been used successfully for a number of years by oil companies and offshore operators worldwide.</p>

DRILLING CHEMICAL RANGE

PRODUCT	DESCRIPTION	RECOMMENDED PRODUCTS
<u>CLOUD POINT GLYCOLS/ SHALE INHIBITORS/LUBRICANTS</u>	These additives are low toxic, versatile cloud point glycols for shale control designed for low to salinity water level system and can be used in well with low, moderate and high formation temperature and isolation or in combination with salts and polyamines.	AMTECH CPG Series <ul style="list-style-type: none"> • Low cloud point • Medium cloud point • High cloud point • (Alkylene Glycols/ Polyglycols)
<u>POLYAMINE BASED SHALE STABILIZERS</u>	These additives are amine based shale inhibitor which are formulated to stabilize reactive shales & clays while drilling with water based drilling fluids. These products are highly effective in inhibiting clay swelling and hydration of cuttings, preventing bit balling and reducing torque and drag.	AMTECH SHALESTAB SERIES (Quaternary Polyamines/ Quaternary Alkyamines/Quaternary Hydroxylamines)
<u>ROP ENHANCERS</u>	This additive is low toxic, versatile, ROP Enhancer designed for medium- to -high salinity water level system and can be used in wells with moderate formation temperature. It can provide improved well bore stability, lubricity, high temperature filtration control, plus reduced dilution rates and bit balling. In a non – dispersed polymer system, it is	AMTECH DRILFAST (Proprietary Blend)
<u>EXTREME PRESSURE LUBRICANTS</u>	These additives are general and special purpose extreme pressure lubricants which are used to reduce the torque, drag and possibility of wall sticking. These lubricants find their application in highly deviated well bores, where a tough lubricating film is needed between the wall cake and drill string.	AMTECH EP LUBE SERIES (Ester/Acid/Soap/Oil Based)
<u>FOAM CONTROL AGENTS/DEFOAMERS/ANTIFOAMS.</u>	An effective way to disrupt foam formation is to introduce a foam control surfactant into the system. A defoamer or antifoam functions by spreading over the gas/ liquid interfaces, thereby preventing foam forming materials from coming to the surface and providing a surface layer which will not sustain foam.	AMTECH L AF Series AMTECH DFO Series (Glycol/ Alkoxyates/ Sulphonates)

DRILLING CHEMICAL RANGE

PRODUCT	DESCRIPTION	RECOMMENDED PRODUCTS
<u>DRILLING DETERGENTS</u>	These additives are used to reduce the surface tension of water based mud systems and the sticking tendency of water sensitive formulations.	AMTECH DRILLDET Series (Proprietary Formulations/ Anionic Surfactants)
<u>H2S SCAVENGERS</u>	These tie up with the H2S in an irreversible reaction preventing the release and thus reduces corrosion leading to improved safety. These products are designed to control H2S with bubble tower applications and/or continuous injections into the wellhead, infield or other transmission lines.	AMTECH SHS Series (Triazine/ Non- Triazine Based)
<u>H2S SCAVANGER WITH SCALE INHIBITOR</u>	This product is formulated to give excellent H2S scavenging characteristic with scale inhibition. It features an instantaneous reaction with hydrogen sulfide and is very effective even at low dosage rates. It effectively controls the scaling problem without any negative impact on downstream operations.	AMTECH LSHS Series (Proprietary Formulations)
<u>EMULSIFIERS FOR OIL BASED MUD</u>	<p>PRIMARY EMULSIFIER These additives are used to produce a highly stable invert emulsion fluid with excellent emulsion stability.</p> <p>SECONDARY EMULSIFIER These additives are multi-functional which provide higher stability to primary emulsifier & imparts preferential wetting of solids by the continuous oil phase.</p>	<ul style="list-style-type: none"> • AMTECH PMR • AMTECH PM 70R • AMTECH PME Series. • AMTECH SER • AMTECH SE 70R • AMTECH SME Series. • AMTECH EMUL ULTRA • (Fatty acid & Modified Polyamides)
<u>WETTING AGENTS</u>	These additives can quickly change the natural water-wetting characteristics of drilled solids and weighting agents in oil muds, making them preferentially oil-wetting. They are used as supplementary oil mud additive for improving fluid loss properties and emulsion stability.	AMTECH SL WET (Organic phospholipid blend)

DRILLING CHEMICAL RANGE

PRODUCT	DESCRIPTION	RECOMMENDED PRODUCTS
<u>PIPE FREEING AGENTS</u>	These additives are specifically designed to assist in freeing stuck pipes. It lubricates and dehydrates filter cake from water- based fluids to aid in creating cracks in the mud cake to help alleviate differentially stuck drill pipes.	AMTECH PFA Series (Modified Polyamides)
<u>DEFLOCCULANT S/ THINNERS</u> (Regular/ High Temp. & high Pressure)	These additives are anionic acrylic co-polymers used in water-based mud systems to control rheological properties and to impart high temperature stability.	AMTECH DEFLOC HT Series AMTECH DEFLOC RT Series (Anionic Acrylates)
<u>EMULSIFIER FOR INVENT EMULSIONS</u>	These additives provide excellent water-in-oil emulsion especially with high water percentage and high electrolyte concentration. These can be used alongwith primary and secondary emulsifiers.	AMTECH 246 (Polymeric Surfactants)
<u>SURFACTANT FOR SPACER FLUIDS</u>	These additives are specialty surfactants used in formulation of spacers used before cementing of oil wells drilled with oil based muds. It is designed to clean up and displace oil and synthetic based muds and solids for better cementation.	AMTECH SPACER – S (Proprietary blend of non – ionic & anionic surfactants)
<u>STABLE FOAMING AGENT FOR DRILLING FLUIDS</u>	These additives are surface active products and generates stable micro bubbles in presence of air to develop specific gravity as low as below 0.8. It is a water based drilling fluid.	AMTECH FOAMER 25CRISTOL WBF (Proprietary blend of non-ionic & anionic)
<u>HTHP FLUID LOSS REDUCING ADDITIVES</u>	This is an advance polymer based HTHP fluid, loss reducing agent/additive, meant for high performance water based drilling fluid systems. It is available in solid as well as liquid forms. It is designed to be stable upto 225°C.	AMTECH FLP 53 (Advanced Polymer)

LISTING OF CURRENT AND PAST EXPERIENCE FOR SIMILAR SCOPE OF WORK IN OIL AND GAS INDUSTRIES

AMTECH CHEMICAL SDN BHD - LIST OF EXPERIENCE (CONTRACT AWARDED)				
Contract / Project Description and Location	Client	Year	Contract / Project Duration	Name of two (2) referees for each project/ contact
<p>Contract Title : Provision of Production Chemical Supply and Associated Services for Newfield Peninsula Malaysia Inc. Operations</p> <p>Contract No. : C-NFX-PM323-OPS-7050</p> <p>Description : Supply and Delivery of Chemicals and Associated</p> <p>Location : Peninsular Malaysia Operations (PM323)</p> <p>Product Involved:</p> <ol style="list-style-type: none"> 1. Corrosion Inhibitor (Fluid) 2. Corrosion Inhibitor (Gas) 3. Biocides 4. Demulsifier 5. Scale Inhibitor 6. Water Clarifier/ Deoiler 7. Paraffin Inhibitor 8. DRA, TEG, PPD <p>Services Provided:</p> <ol style="list-style-type: none"> 1. Tote tank management. 2. Field surveillance team. 3. Lab testing services. 	<p>NEWFIELD PENINSULA MALAYSIA INC. Level 53, Tower 2, Petronas Twin Towers, Kuala Lumpur City Centre, 58000 Kuala Lumpur</p>	<p>2007 - 2011</p>	<p>Contract Award : 30 November 2007 - 30 November 2010 (3 years)</p> <p>Contract Extension: 01 December 2010 - 29 August 2011 (9 months)</p>	<p>Mr. David Balusek Mr. Azmi Yahaya</p> <p>Tel No. : 03-20901888</p>

<p>2</p>	<p>Contract Title : Provision of Scale Inhibition, Topside Descaling and Associated Services for PETRONAS Carigali Sdn. Bhd. – Sarawak & Sabah Operations (PCSB – SKO & SBO)</p> <p>Contract No. : S07/R5/178</p> <p>Description : Supply and Delivery of Scale Inhibitor, Descaling Job and Associated Services</p> <p>Location : Sabah and Sarawak Operations</p> <p>Product Involved:</p> <ol style="list-style-type: none"> 1. Scale Inhibitor 2. Descaler 3. Corrosion Inhibitor (Fluid) <p>Services Provided:</p> <ol style="list-style-type: none"> 1. Chemical skids management. 2. Descaling Team. 3. Field Surveillance team. 4. Lab testing services. 5. Scalechem training. 	<p>PETRONAS Carigali Sdn Bhd Sarawak Operations PETRONAS Carigali Building Jalan Sekolah, Lutong P.O Box 1452 98008, Miri Sarawak, Malaysia</p>	<p>2008 - 2013</p>	<p>Contract Date : 01 July 2008 - 30 June 2011 (3 years)</p> <p>Contract Extension: 01 July 2011 - 06 July 2013 (2 years)</p>	<p>Mr. M. Nazroon Hardika b. Haili Mrs. Raja Nor Rafidah Raja Sahar</p> <p>Tel No. : 085- 475778 088- 525431</p>
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3	<p>Contract Title : Provision of Supply and Delivery of Corrosion Inhibitor of Crude System and Associated Services for PETRONAS Carigali Sdn Bhd Sarawak and Sabah Operations (PCSB – SKO & SBO) for a Period of Six (6) Months</p> <p>Contract No. : SKO/2009/BRE5/097</p> <p>Description : Supply and Delivery of Corrosion Inhibitor and Associated Services</p> <p>Location : Sabah and Sarawak Operations</p> <p>Product Involved: 1. Corrosion Inhibitor</p> <p>Services Provided: 1. Field Surveillance team. 2. Lab testing services.</p>	<p>PETRONAS Carigali Sdn Bhd Sarawak Operations PETRONAS Carigali Building Jalan Sekolah, Lutong P.O Box 1452 98008, Miri Sarawak, Malaysia</p>	2010 - 2011	<p>Contract Award : 04 April 2010 - 03 September 2010 (6 months)</p> <p>Contract Extension: 04 Sep 2010 - 03 March 2011 (6 months)</p>	<p>Mr. M. Nazroon Hardika b. Haili Mrs. Raja Nor Rafidah Raja Sahar</p> <p>Tel No. : 085- 475778 088- 525431</p>
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4	<p>Contract Title : Price Agreement for Supply and Delivery of Corrosion Inhibitor for FPSO Ventures Sdn Bhd</p> <p>Contract No. : Ref : FVSB/ACSB/OA/CI/01-2011/L/001</p> <p>Description : Supply and Delivery of Corrosion Inhibitor</p> <p>Location : Sarawak Operations</p> <p>Product Involved: 1. Corrosion Inhibitor.</p>	<p>FPSO Ventures Sdn Bhd Level 9, Menara Perak No. 24, Jalan Perak 50450 Kuala Lumpur</p>	<p>2011</p>	<p>Contract Award : 12 January 2011 – 31 December 2011 (1 year)</p>	<p>Capt. Stephen Siva Tel No. : 03-22648000</p>
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5	<p>Contract Title : Supply and Delivery of Deoiler, Corrosion Inhibitor, Descaler/ Scale Inhibitor and Associated Services for PETRONAS Carigali Sdn Bhd Peninsular Malaysia and Sabah Operations .</p> <p>Contract No. : P8A/C5/X295-A</p> <p>Description : Supply and Delivery of Deoiler, Corrosion Inhibitor, Descaler/ Scale Inhibitor and Associated Services</p> <p>Location : Sabah and Peninsular Malaysia Operations</p> <p>Product Involved:</p> <ol style="list-style-type: none"> 1. Deoiler 2. Corrosion Inhibitor 3. Descaler / Scale Inhibitor <p>Services Provided:</p> <ol style="list-style-type: none"> 1. Field Surveillance team. 2. Scalechem training. 3. Trouble shooting. 4. CI facility upgrading/ improvement. 5. Injection pumps skid maintenance. 6. Portable chemical injection pumps rental services. 7. Tote tank management. 	<p>PETRONAS Carigali Sdn Bhd Peninsular Malaysia Operations PETRONAS Operation Complex 24300 Kerteh, Kemaman Terengganu</p>	2011 - 2016	<p>Contract Award : 23 January 2011 - 26 January 2016 (5 years)</p> <p>Contract Extension Option: (2 + 2 years)</p> <p>Contract Extension 1st round:</p> <p>27 January 2016 - 31 March 2016 (3 months)</p> <p>Contract Extension 2nd round:</p> <p>01 April 2016 - 31 July 2016 (4 months)</p>	<p>Mr. Mat Azhar Mat Lazim Mr. Amir Sani Ab Bak</p> <p>Tel No. : 09-866 7722 088- 525435</p>
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<p>6</p>	<p>Contract Title : Provision of Scale Inhibition, Topside Descaling and Associated Services for PETRONAS Carigali Sdn. Bhd. – Sarawak & Operations (PCSB – SKO)</p> <p>Contract No. : SKO/2013/BPDB/0010</p> <p>Description : Supply and Delivery of Scale Inhibitor, Descaling Job and Associated Services</p> <p>Location : Sarawak Operations</p> <p>Product Involved: 1. Scale Inhibitor 2. Descaler</p> <p>Services Provided: 1. Chemical skids management. 2. Descaling Team. 3. Field Surveillance team. 4. Lab testing services. 5. Scalechem training.</p>	<p>PETRONAS Carigali Sdn Bhd Sarawak Operations PETRONAS Carigali Building Jalan Sekolah, Lutong P.O Box 1452 98008, Miri Sarawak, Malaysia</p>	<p>2014-2015</p>	<p>Contract Date : 01 Jan 2014 - 31 December 2014 (1 year)</p> <p>Contract Extension: 01 Jan 2015 - 31 December 2015 (1 year)</p>	<p>Mr. M. Nazroon Hardika b. Haili</p> <p>Tel No. : 085- 475778 088- 525431</p>
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7	<p>Contract Title : Provision of Produced Water Chemicals Supply and Services</p> <p>Contract No. : HESS/2014/064</p> <p>Description : Supply and Delivery of Demulsifier, Water Clarifier and Associated Services</p> <p>Location : Peninsular Malaysia Operations</p> <p>Product Involved: 1. Demulsifier 2. Water Clarifier</p> <p>Services Provided: 1. Field Surveillance and Chemical Performance Monitoring 2. Chemical skids management. 3. Trouble Shooting</p>	<p>HESS Exploration and Production Malaysia B.V Level 14, Menara 3 PETRONAS KLCC, 50088 Kuala Lumpur</p>	2014-2017	<p>Contract Date : 11 August 2014 - 10 August 2016 (2 years)</p> <p>Contract Extension: 11 August 2016 - 10 August 2017 (1 year)</p>	<p>Mr. Ronald Chang Tel No. : 03-2788 7000</p>
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<p>8</p>	<p>Contract Title : Provision of Triethylene Glycol for Keabangan Petroleum Operating Company Sdn Bhd</p> <p>Contract No. : KPOC/CB/15/773</p> <p>Description : Supply and Delivery of Triethylene Glycol and Associated Services</p> <p>Location : Sabah Operations</p> <p>Product Involved: 1. Triethylene Glycol</p> <p>Services Provided: 1. Totetank Management 2. Safe Chemical Handling Training</p>	<p>Kebabangan Petroleum Operating Company Sdn Bhd Level 52, Tower2, PETRONAS Twin Towers, Kuala Lumpur City Centre, 50088 Kuala Lumpur</p> <p>Kebabangan Petroleum Operating Company Sdn. Bhd. (KPOC) Wisma 2 & Wisma 3,1 Sulaman, Jalan Sulaman, 88400 Kota Kinabalu, Sabah, Malaysia</p>	<p>2015 - 2017</p>	<p>Contract Date : 11 Sept 2015 - 10 Sept 2017 (2 years)</p> <p>Contract Extension Option: (1 year + 1 year)</p>	<p>Norfiza Mohamad Senior Executive, Contracts</p> <p>G/L: +60 88 478 888 Fax: +60 88 478 882 D/L: +60 88 478 852 Mobile: +6013 3405781</p>
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<p>9</p>	<p>Contract Title : Provision of Scale Inhibition, Topside Descaling and Associated Services for PETRONAS Carigali Sdn. Bhd. – Sarawak & Operations (PCSB – SKO)</p> <p>Contract No. : SKO/2015/BPDB/1006</p> <p>Description : Supply and Delivery of Scale Inhibitor, Descaling Job and Associated Services</p> <p>Location : Sarawak Operations</p> <p>Product Involved: 1. Scale Inhibitor 2. Descaler</p> <p>Services Provided: 1. Chemical skids management. 2. Descaling Team 3. Field Surveillance team. 4. Lab testing services. 5. Scalechem training.</p>	<p>PETRONAS Carigali Sdn Bhd Sarawak Operations PETRONAS Carigali Building Jalan Sekolah, Lutong P.O Box 1452 98008, Miri Sarawak, Malaysia</p>	<p>2016-2017</p>	<p>Contract Date : 01 Jan 2016 - 31 Dec 2017 (2 years)</p> <p>Contract Extension Option: (1 year)</p>	<p>Mr Ahmad Ramuzan Muda Ms. Elvina Liew Syn Lin</p> <p>Tel No. : 085- 475778 088- 525431</p>
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<p>10</p>	<p>Price Agreement Title : Supply and Delivery of Antifoulant, Calcite Scale Inhibitor and Deoiler for PETRONAS Carigali Sdn Bhd</p> <p>RFX No. : 6200171113</p> <p>Description : Supply and Delivery of Antifoulant, Calcite Scale Inhibitor and Deoiler and Associated Services</p> <p>Location : Peninsular Malaysia Operations</p> <p>Product Involved:</p> <ol style="list-style-type: none"> 1. Scale Inhibitor 2. Corrosion Inhibitor 3. Deoiler <p>Services Provided:</p> <ol style="list-style-type: none"> 1. Field Surveillance team. 2. Scalechem training. 3. Trouble shooting. 4. CI facility upgrading/ improvement. 5. Injection pumps skid maintenance. 6. Portable chemical injection pumps rental services. 7. Tote tank management. 	<p>PETRONAS Carigali Sdn Bhd Peninsular Malaysia Operations PETRONAS Operation Complex 24300 Kerteh, Kemaman Terengganu</p>	<p>2017</p>	<p>Contract Date : 09 Jan 2017 - 08 April 2017 (3 months)</p> <p>Contract Extension Option: (3 months)</p>	<p>Mr. Emil Zubri B. M Nazri Tel No. : 09-866 7722</p>
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11	<p>Contract Title : Provision of Chemicals Supply and Services for NMB FFD Project</p> <p>Contract No. : HESS/2016111</p> <p>Description : Supply and Delivery of Chemicals and Associated Services</p> <p>Location : Peninsular Malaysia Operations</p> <p>Product Involved:</p> <ol style="list-style-type: none"> 1. Flootation Aid/ Coagulant 2. Biocide 3. MEG 4. Corrosion Inhibitor 5. Oxygen Scavenger 6. pH Controller 7. Demulsifier 8. Deionized Water of Demi water 9. Defoamer 10. Ethylene Glycol 11. Glycol Water 12. Methanol 13. Reverse Emulsion Breaker 14. Poly electrolyte 15. Antis Calant 16. Hypochloride NaOCl 17. Sodium Bisulfite 18. Heating Medium 19. Multifunctional Chemicals <p>Services Provided:</p> <ol style="list-style-type: none"> 1. Tote tank management. 2. Manpower. 3. Pump maintenance and services. 4. Injection quill maintenance 	<p>HESS Exploration and Production Malaysia B.V Level 14, Menara 3 PETRONAS KLCC, 50088 Kuala Lumpur</p>	2017-2020	<p>Contract Date : 01 May 2017 - 30 April 2020 (3 years)</p> <p>Contract Extension Option: (1 year)</p>	<p>Mr Zaidi Hashim Senior Manager, Supply Chain Management, Offshore APAC</p> <p>Mr Jesmeet Aulakh Supply Chain – Production, Logistics & EHS</p> <p>Tel No. : 03 2788 7073</p>
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No	Contract / Project Description and Location	Client	Year	Contract / Project Duration	Contract Value
12	<p>Contract Title : Supply and Delivery of Materials, Tools, Equipment and Labour for the Installation/ Construction, Completion and Maintenance of General Civil Works</p> <p>Contract No. : RFC0-15017401-2021</p> <p>Location : Rapid, Pengerang, Johor</p>	<p>SMCC Malaysia Sdn Bhd No. 105, Jalan Teluk Ramunia, Sungai Rengit 81260 Pengerang Johor</p>	2016	<p>Contract Date : 01 March 2016 - 31 June 2016 (3 months)</p> <p>Contract Extension: 01 July 2016 - 30 September 2016 (3months)</p> <p>Contract Extension: 01 Oct 2016 - 30 August 2017 (9 months)</p>	RM10.6m
13	<p>Contract Title : Piping Works</p> <p>Contract No. : 118M0033/CSK Valiant</p> <p>Location : MMHE Pasir Gudang, Johor</p>	<p>Malaysia Marine And Heavy Engineering Sdn Bhd.(14558-P) P.O. Box 77,81707 Pasir Gudang Johor, Malaysia.</p>	2018	<p>Contract Date : 16 July 2018 - 2 August 2018</p>	RM 200,000.00

14	<p>Contract Title : Piping Works</p> <p>Contract No. : 118M0068/Hong Bang 6</p> <p>Location : MMHE Pasir Gudang, Johor</p>	<p>Malaysia Marine And Heavy Engineering Sdn Bhd.(14558-P) P.O. Box 77,81707 Pasir Gudang Johor, Malaysia.</p>	2018	<p>Contract Date : 24 July 2018 - 4 August 2018</p>	RM 200,000.00
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