

CHEMISTRY

INTERNSHIP

INFOGRAPHICS

SSCA : Bachelor of Science (Chemistry)

SSCC : Bachelor of Science (Industrial Chemistry)

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INTERNSHIP INFOGRAPHICS

SSCA & SSCC
2020



First Printing 2020

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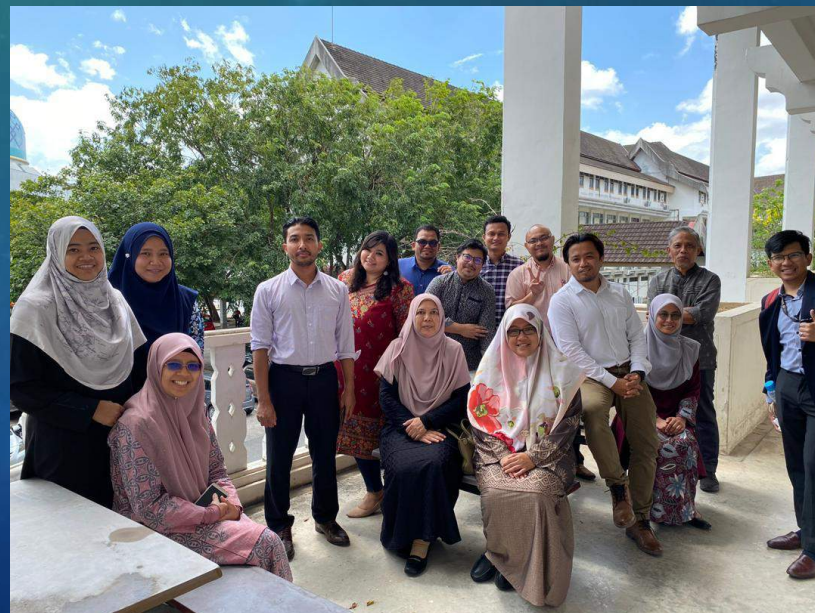
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Johor
MALAYSIA



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Preface

After our first ever success in publishing Chemistry Internship Infographics for the last three consecutive years (2017, 2018 & 2019), this year, we are once again carrying on this soon-to-be tradition. Why are we doing this? Well, in today's working world, there is a mismatch between the demand and supply of graduates, with employers reporting that graduates lack the requisite knowledge, skills and attitudes. As we enter the 4th Industrial Revolution, it gets tougher and tougher to resolve this mismatch as technological disruptions are constantly reshaping job markets and altering the types of careers. In line with that, UTM is preparing the students to navigate this uncertain future, which not only requires instilling them with transferrable skills and sound ethical foundations, but also the resilience and enterprising spirit to forge new opportunities for themselves and the others.

For ease of reference, this is the compilation of the Infographics prepared by the final year students of SSCA and SSCC, whom recently just completed their Industrial & Research Training during the short semester of 2020.

Foreword by the Director, Dept. of Chemistry

CONGRATULATIONS to all 3rd year students who had successfully underwent the industrial/research training for 10 weeks during last short semester break. Hopefully all of you had able to enhance your knowledge and technical skills that you had learned in university and also had gained valuable work experience. Industrial training is where you have the opportunity to practice your communication and teamwork skills besides to practice good qualities of integrity, responsibility and self-confidence in real working environment. The work experience are surely different from one student to the other but surely there are lots of lesson learned during the 10 weeks period. **Keep on improving yourselves and never give up. Hold to the positive thought and attitudes!!! Always ask what and how I can contribute. May you all be successful in your study and self-development.**

Associate Professor Dr. Shajaraktunnur Jamil
Director, Department of Chemistry



JKPP

We wish to produce graduates with relevant disciplinary knowledge and skills, ethics and morals, as well as the appropriate behaviours, mind sets, cultural and civilizational literacy, to advance them to a higher level of personal well-being. Our chemistry graduates will be ready and willing to contribute to the betterment of the family, society, nation, and global community. Such holistic, entrepreneurial, and balanced graduates are a natural extension of achieving the goal of the Malaysian basic education system, which is to ultimately develop values-driven Malaysians.



**Jawatankuasa Pembangunan Pelajar (JKPP)
invites all SSCA & SSCC students to join MY ROADMAP®**



MYROADMAP

BY JKPP



Lifelong Learning AD1
Positive Attitude & Behaviors AD2
Team Working AD6
Critical Thinking AD7

Communication Skills AD3
Responsibility AD4
Adaptability AD5
Team Working AD6
Leadership AD8

Lifelong Learning AD1
Communication Skills AD3

Personal Skills

Teamworking Skills

Corporate Behaviour

CONTINUOUS ASSESSMENTS

Year 1

Year 2

Year 3

Year 4

Working Environment

IQ

Undergraduate Research Project

Technical Competency

CAREER EXCELLENCE

EQ

START

7 habits

Sports Day

Personal Excellence

ALUMNI NETWORKING

SQ

Outdoor Survival

Event Managements

Community Service

Career Festival

Study Circle / Group



ROI

ROI

ROI

SEMESTER 1 & 2

SEMESTER 3 4 5 6

SEMESTER 7 & 8

Consistent enthusiasm and positive attitudes towards learning and personal growth in academic and personal life.

Experiential teamwork based learning in social, academic and community interaction.

Career knowledgeable, dream realization, ability to market self and turn challenges into opportunities.

ROI2 : The backbone of MyRoadmap
Student Ownership-Based Program - PESAT

Continuous Alumni Engagements
Financial Sustainability
ALUMNI GIVES BACK



Ready to help friends

Ready to seek more self potential

Ready for job market

Milestones

Intra-University Networking, Execution of ROI programs

Symbiosis relationship with communities

Reach out for external networkings

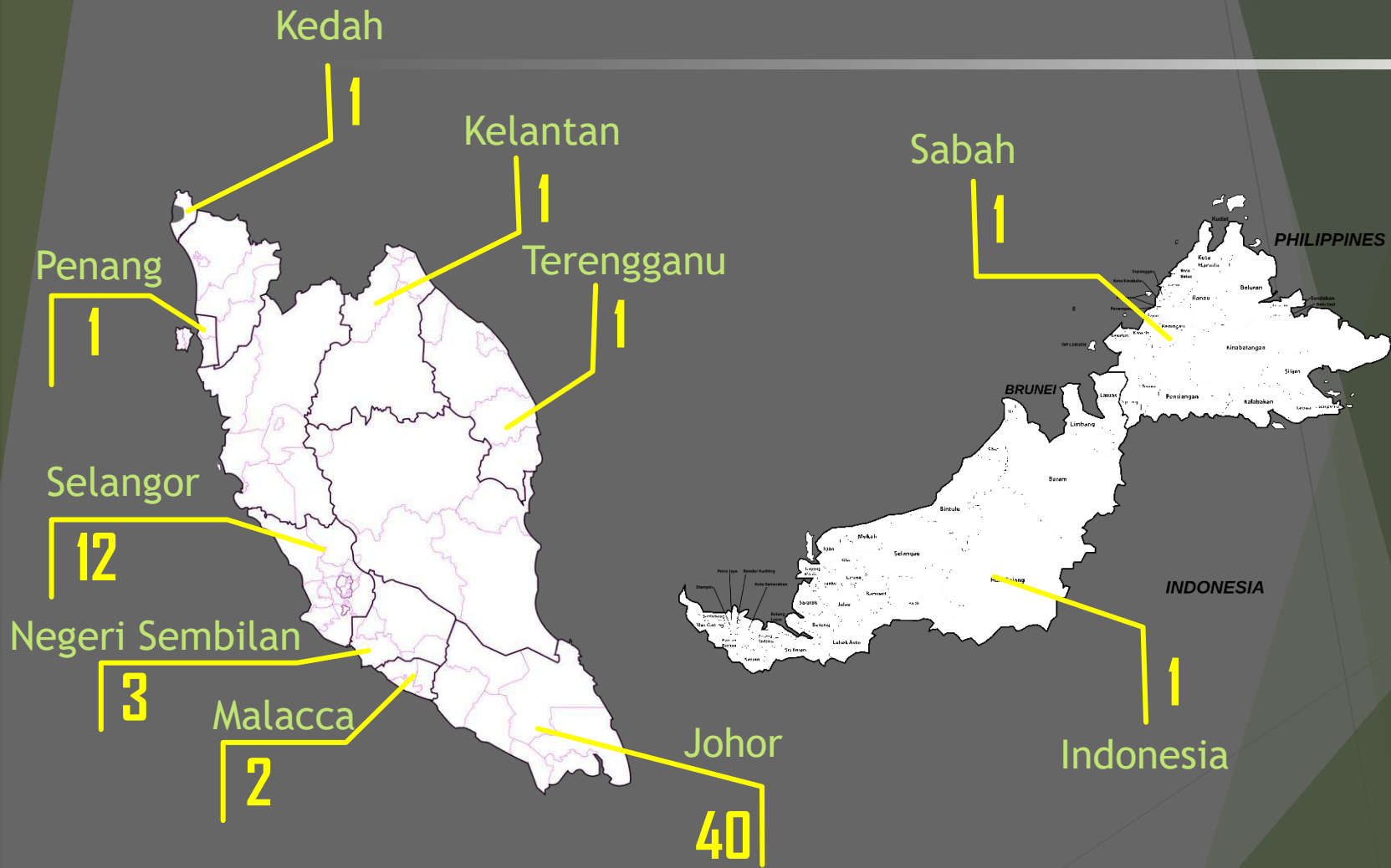
Without #myROADMAP, you can still be a graduate,
But with #myROADMAP, you will definitely be an
excellent graduate:
Your graduation will be a celebration for employers and
community.



DISCLAIMER

All students of SSCA & SSCC were given the freedom to express their own creativity and ideas in words, pictures and graphics, obtained from various sources that may or may not include resources from the internet. There is no restriction on the presentation ideas; editing is very minimal. This compilation of internship infographic is solely meant for learning purposes.

Distribution of Internship Locations





K E D A H

Nur Syazana Amira
Binti Zaki Afandi
3 SSC
A17SC0167

1 COMPANY BACKGROUND



Established in 1991, SM Biomed is a joint venture company pioneering the manufacture of API (active pharmaceutical ingredients) products in Malaysia. Company has grown several folds as a market leader in the manufacture of macrolide antibiotics. Quality in the products & excellent service to our clients has been the essence of our success.

2 AWARDS

Export Excellence Award : Year 2000
Ministry of international Trade and Industry,
Malaysia

Asia Pacific Entrepreneur Excellence Award
Excellence Product : Year 2012

3 JOB SCOPE & EXPERIENCES

- I am working under Analytical Research & Development Department (ARD)
- Involves in pre-formulation, stability and degradation studies on APIs and other drugs, and preparation of technical dossiers for registration.
- Preparation of complete specifications for raw materials, APIs, finished products, intermediates, excipients, as well as coordination with research and development team.
- Instrument calibrations as per cGMP.
- Complete documentation as per cGMP.
- Testing related compound by using HPLC and GC

SM BI OMED

Lot 90, Sungai Petani Industrial Estate ,Sungai Petani,
08000 Kedah, Malaysia
+604-441 1801



4 LESSON GAINED

- Communication Skill
- Laboratory Skill
- Time Management
- Adaptability

5 INSTRUMENT USED

- HPLC
- GC
- Karl Fischer Autotitrator
- pH meter
- FTIR
- UV-Visible
- PSD



MENTOR
ATHIRAH ROSLI



INDUSTRY SUPERVISOR
DR. HIREMATH C.V



FACULTY SUPERVISOR
DR. CHEROZID MAMAT



PENANG

SSCU 3905 INDUSTRIAL TRAINING BY KHANSA BINTI THABIT (A17SC0060)



PERBADANAN BEKALAN AIR PULAU PINANG

ADDRESS:

Level 33, Menara Komtar, Jalan
Penang, Georgetown, 10000 Pulau
Pinang,

ABOUT PBAPP

A STATE OWNED COMPANY WHICH
RESPONSIBLE FOR WATER SUPPLY
SERVICES IN PENANG.



JOB SCOPE

INTERNAL AUDIT VERIFICATION
HIRARC REVIEWING
HIRARC DOCUMENTATION
CUSTOMER COMPLAINT DOCUMENTATION
WATER TREATMENT PLANT SITE VISIT
FIRE EVACUATION DRILL TRAINING
CHLORINE LEAKAGE TRAINING
CHEMICAL SPILLAGE TRAINING
CIDB GREEN CARD RENEWAL
DOCUMENTATION

EXPERIENCES

VISITED 6 OUT OF 10 WTP IN PENANG
VISITED ALL DAMS IN PENANG
TRAINING ON FIRE EVACUATION DRILL,
CHLORINE LEAKAGE AND CHEMICAL
SPILLAGE
LEARNED ALL THE CERTIFICATION USED
IN PBAPP
OBSERVE HOW INTERNAL AUDIT ARE
CONDUCTED



EXPERIENCE

SUPERVISORS

INDUSTRIAL SUPERVISOR
IR ASILA BINTI KU ISHAK

FACULTY SUPERVISOR
DR ROHULHAYAT BIN ADNAN





SELANGOR

About Me

Look Li Mon
A17SC0072
3SSCC, Bachelor of Science in Industrial Chemistry
Trainee in Compounding Department
10018131

About Supervisor

Industrial Supervisor: Ms. Norhazila bt. Mat Yasin
Mr. Mohamad Azri bin Roslin
Mr. Chia Yong Jun
Faculty Supervisor: Dr. Che Rozid Mamat

About Factory

Lot 4981&4982, Jalan Dahlia,
Kawasan Perindustrian, Meru Timur,
41050 Klang, Selangor Darul Ehsan.
+603-7890 3332

Instrumentation

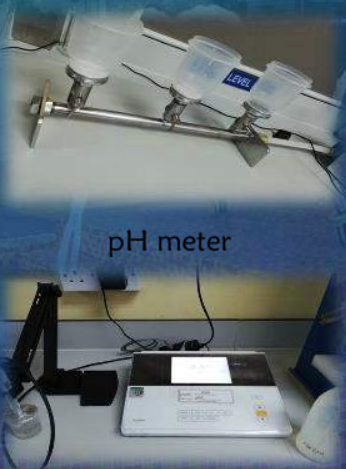
Particle Size Machine



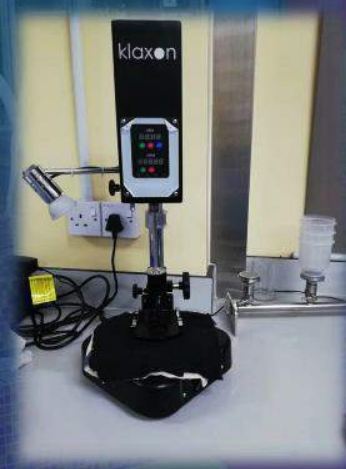
Contact Angle Machine



Vacuum Pump



Foaming Height Machine



Surface Tension Machine



Projects

- Project 1: Coagulant Hand Dip
Obj: To study the formulation of coagulant.
- Project 2: Study the New Wetting Agents in Coagulant
Obj: To investigate the wettability of the wetting agents.
- Project 3: Compare the Recycle Coagulant between F29 and F32
Obj: To determine the benefits of installing filter system.

Project 4: Study the cleaning efficiency by using different type of alkaline
Obj: To study the cleaning efficiency of different types of alkaline used on the former pieces.

Priceless Experience

- Enhance communication skills
- Improve laboratory skills
- Experience work culture
- Multitasking
- Work as a team, not a superman
- Be honest

Special Tasks

- Compare acid, alkaline and silicone with production line for every 2 hours
- Do visual and separation test for online coagulant tanks and dipping tanks everyday
- Do contact angle test and particle size test for coagulant in 17 production lines
- Measure TSC (Total Solid Content) for every chemicals in coagulant
- Do powder level test on different production lines



INDUSTRIAL TRAINING

- **NAME :** Muhammad Haziq Bin Istamam
- **PROGRAMME :** 3SSCC
- **COURSE :** SSCU 3905
- **UNIVERSITY SUPERVISOR :** Prof. Madya. Dr. Shajarahtunnur Binti Jamil
- **INDUSTRY SUPERVISOR :** Nasuha Binti Ibrahim



FA HERBS SDN BHD

- Established on 1996
- **FOUNDER :** Madam Fauziah Binti Ahmad Fadzil, Madam Faridah Binti Ahmad Fadzil, Mr Faisal Bin Ahmad Fadzil
- **ADDRESS :** Fa Herbs Sdn Bhd, No 3, Jalan Bukit Badong 1, Taman Industri Bukit Badong, 45620 Ijok, Selangor
- **COMPANY OVERVIEW :** Industry for manufacturing and re-packing of bar/liquid soap, capsulation, food supplement including powder sachet, aromatherapy, personal hygiene & toiletries product, hand sanitizer and pre & post-natal care
- **VISION :** To produce the best quality product with the best possible price for clients
- **MISSION :** To improve product quality and ensure sustained satisfaction to all customers and employees

Making of sample

Sample of product for example body wash, shampoo, hair conditioner, facial wash or cleanser, hand sanitizer, facial and body moisturizer, body scrub, serum and facial toner.

PROCEDURE :

- 1) Product that have RO water/Distilled water as base need to be heated on hotplate until certain temperature.
- 2) Added thickeners agent and humectant and continued under intensive stirring until a homogeneous gel is formed.
- 3) Added surfactant, emulsifiers or emollients substance into the warm mixture.
- 4) Added essential oil or perfume at low temperature to avoid breaking of the bond.

PH LEVEL TESTING

Important steps in the production of cosmetics. All of the products need to follow the pH specification and have a range of acceptable pH value to prevent the product give negative effect to the consumer and environment. The pH adjusting agent will be added to adjust the pH value.

VISCOSITY TESTING

Viscometer as the device. There are 4 size of spindles which are size 61,62,63, and 64. Each spindle have their own type of products. Knowing the viscosity of a semi-finished product helps to reduce costs and organize the production process efficiently.



SIRIM QAS INTERNATIONAL SDN. BHD.

Building 16, Complex 1, Persiaran Dato' Menteri
Section 2, P.O. Box 7035

40700 Shah Alam, Selangor

Tel: 603-5544 6400 Email: cserviceqas@sirim.my



PROJECT

- ❖ Determination of alcohol contain in hand sanitizer
- ❖ Determination of toluene contain in laminate.
- ❖ Verification of glassware

DOCUMENTATION

- ❖ Density worksheet
- ❖ Heavy Metal contain worksheet
- ❖ Uncertainty Glassware for Water Lab

SUPERVISOR DETAIL

Faculty: Dr Fazira Ilyana Binti Abdul Razak
Industry: En Wan Muhamad Afeeq Afnani bin Wan Ali

LESSON LEARN

- Teamworking
- Communication
- Adaptability
- Punctuality
- Disipline
- Leadership

BENEFITS

- Flexible work time
- Provide allowance
- Work environment are comfortable

INSTRUMENTS



Gas Chromatography (GC)



High Performance Liquid Chromatography (HPLC)



Inductive Couple Plasma (ICP)



pH meter



UV/VIS Spectrophotometer



Turbidimeter



Potentiometric Automatic Titrator

WORKING HOUR

Monday – Friday
8.00am – 5.00pm

MUHAMMAD ILHAM BIN ZULKIFLI

A17SC0099

3SSCC

Introduction

Address: Jabatan Kimia
Malaysia, Jalan Sultan, Pjs
52, 46661 Petaling Jaya,
Selangor
Tel: 03-7985 3000

Personal Detail

Name: Nur Aqilah Binti
Mohd Azmey
No matrices: A17SC0137
Course: 3SSCC

JOB SCOPE

Extraction
of Protein from Honey
Sample



Experience

HONEY SAMPLING

I experience to collect
kelulut honey at Bagan
Lalang, Sepang

Project

- Extraction of Vanillin Crystals from Natural Vanilla and Commercial Vanilla Products
- Determination of selected Volatile Organic Compounds (VOCs) in Urine by using Static Headspace Sampling with GC-MS/MS

Instrument



GC-MS/MS



TOP GLOVE CORPORATION BHD

TOP QUALITY, TOP EFFICIENCY



46
FACTORIES



2 000
CUSTOMERS



724
PRODUCTION
LINES



85.5B
GLOVES PER ANNUM



195
COUNTRIES OF
EXPORT

PROFILE

Established in 1991 and headquartered in Malaysia, Top Glove Corporation Bhd is the world's largest manufacturer of gloves. Started as a local business enterprise with 1 factory and 1 glove production line, and expanded to the world market share for rubber gloves.



PRODUCTS

Other than producing gloves, in Top Glove Corporation Bhd also produced face masks, sexual wellness, dental cares, exercise band that being exported to over 2,000 customers in 195 countries worldwide.

INTERNSHIP JOURNEY



FACTORY 21

21st factory built under TG Corp. Bhd. F21 produced household gloves which are NR and NBR type of gloves.



POSITION

Self reported as a Trainee of Research and Development (R&D) department under F21. Operation staff.



JOB SCOPE

To conduct a study on latex compound and gloves based on its objective:

- Improve gloves quality
- Reduce manufacturing cost
- Troubleshoot quality issues



PROJECTS

- Projects on reformulating latex:
- Evaluation of new stabilizer
 - Evaluation of new pigment
 - Evaluation of Addition Binder
 - Study of 2 Alternative Rubber for NBR latex



PROCESS

1. Compound sets of latex based on adjusted formulation.
2. Conduct online hand dip to produce glove sample.
3. Conduct test on latex and gloves to measure its chemical and mechanical properties.
4. Conclude the finding of studies.



INSTRUMENTATION

Latex parameter testing:

- pH meter
- Viscometer
- Zetasizer
- Optical Tensiometer

Glove parameter test

- Tensile machine
- Thickness gauge
- Olfactometer
- Grip tester



ACHIEVEMENT

- One of my studied project has been approved to be run on production lines and no quality issues occurs during mass trial run conducted.

Be able to completed all 5 projects within internship period.



BENEFITS

- Accommodation provided.
- Services provided: Gym, Dental Clinic, TGGD Medical.
- Allowance: RML200
- Gain a lot of new experiences.



SKILLS GAINED

- Job functionality and be able to understand the job scopes.
- Able to work under pressure with load works and deadlines.
- Time management and punctuality.
- Solving problem and critical thinking.
- Improved communication skill with worker, staff and suppliers.
- Improved report writing skills.
- Improved skills on using Microsoft Excel for compiling data.
- Encourage me to work with more honesty and integrity.

PREPARED BY:
NURSYAHADAH BINTI MD SALLEK
A17SC0180

Go to <https://www.topglove.com/> for more info!

TOP GLOVE SDN. BHD (F21)
LOT 6086, JALAN BUNGA RAYA, 6TH MILES,
OFF HIGHWAY 42/50 KLANG, SELANGOR
03-3392 5900

FACULTY SV:
DR. JOAZAIZUL FAZLI JAMALIS
INDUSTRY SV:
MS. MURULINEZ NATASHA SHAMSUL ARIFFIN

TOP GLOVE

TOP QUALITY, TOP EFFICIENCY



Acid Sensor Validation

- Consist of 3 types of validation, Installation (IQ), Operational (OQ) & Performance (PQ).
- IQ was done by the supplier for 2 days by installing and calibrating the sensor
- OQ was done by QA department for 2 days by creating different concentration of acid sample and testing it.
- PQ was done by QA department for 14 days by testing the concentration of acid in tank and comparing with the sensor reading

Glove Tensile Strength & Elongation

- 3 different type of standards (ASTM, EN & ISO).
- Cut the glove samples according to the required standard using pressure cutter and one set of sample is placed in 70°C oven for 7 days (after aging).
- Before aging sample are tested first by clamping the sample onto the tensile machine and result will be displayed on the computer once the sample tear off.
- ASTM (elongation & tensile strength), EN (force to break) & ISO (force to break & elongation)

Electro Water Tight Test

- Place 10 glove samples on each of the mandrels on the electro water tight test machine and tie it with the condom beading
- Lower the gloves in the salt solution and if there is any pinhole present, the computer will display it in terms of mV.
- 50 mV and lower indicates that the glove does not have any pinhole while 51 mV to 10,000 mV indicates that the glove does have pinhole on it.

Alkaline Sensor Validation

- Same step as the acid sensor validation.
- IQ was done by the supplier for 2 days by installing and calibrating the sensor.
- However, this sensor is newly installed sensor in Block B so, after the IQ stage, extra testing and calibration are carried out in-house.
- Testing was carried out by QA department until the sensor stabilize and could give a proper reading of alkaline concentration in tank 1&2.

JOB SCOPES

Internship Training Info Graphic:

Name: Ashwin A/L Boopathy

Year/Programme: 3 SSCC

Course: SSCU 3905

University Supervisor: Prof. Dr. Madzlan Aziz

Industrial Supervisor: Puan Lailah Syukriah
Ismail & Latasha Choy Xin-yi

Company Profile:

1. Top Glove is established on 1991 and headquartered in Malaysia
2. Currently, the leading manufacturer of gloves around the world with 26% of market share.
3. The founder of the company, Tan Sri Dr Lim Wee Chai, is currently the chairman of Top Glove Sdn. Bhd.
4. Top Glove currently have 46 factories with 724 production lines.
5. Have more than 2,000 customers worldwide and 195 countries of export.

Top Glove Vision: To be your world class partner in gloves and healthcare product

Top Glove Mission: Ensuring safe human protection globally

TOP GLOVE

TOP QUALITY, TOP EFFICIENCY

BACKGROUND

The world's largest manufacturer of gloves, with manufacturing spanning across Malaysia, China and Thailand.

TOP GLOVE PRODUCT



F20BC PRODUCT (Chemicals)

- Antioxidant
- Zinc Oxide
- Titanium Dioxide
- Sulphur
- Zinc Diethyl Dithiocarbamate (ZDEC)
- Zinc Dibutyl Dithiocarbamate (ZDBC)
- Binder
- Filler
- Stabilizer
- Anti-tack Agent
- Composite
- Pigment



JOB SCOPE

- Assist in updating mixing paper from previous day into mixing calendar
- Assist in printing mixing paper for day shift and night shift
- Assist in checking adjustment paper from QA and arrange worker to do adjustment of the chemicals
- Assist in daily housekeeping checklist around factory 20BC
- Assist in additional responsibility as instructed by supervisor

EXPERIENCES

- Learn on how production works
- Learn to differentiate chemicals based on appearance, colour and smells
- Improve communication skills
- Use viscometer, particle size analyzer and pH analyzer to test specs of chemicals
- Learn to adjust chemicals that did not meet QA standards
- Learn to use Microsoft Excel to generate data

TOP GLOVE CHEMICALS SDN BHD
 LOT 4988, JALAN BUNGA RAYA, 6TH MILES, OFF JALAN MERU
 41050 KLANG, SELANGOR, MALAYSIA
 +603-33924211

WAN NOOR AZITA AINI WAN SALLEH
 3SSCC
 +6018-2235538

INDUSTRIAL SUPERVISOR: PN NOR NADIAH AHMAD HAMIDI
 FACULTY SUPERVISOR: DR SUSILAWATI TOEMEN

TOP GLOVE

TOP QUALITY, TOP EFFICIENCY

Wong Keh Li

3 SSCC

Faculty Supervisor: Dr. Nursyafreena Attan

Industrial Supervisor: Mr. Ong Chee Sian



Lab Scale Study



Mass Scale Study (latex dipping tank) in line

Skills development: Problem Solving, Laboratory skills, Communication skill

Designation:
Trainee, Manufacturing
F19 Top Glove Sdn Bhd

On Job Training

- Know the roles and significances of each department in the factory
- Know about the employee's (staff and workers) daily tasks
- Factory tour (production process)

Experiences/ Knowledge Gained

Research study (Projects)

- Project 1 : Changing Glove Weight (product change)
- Project 2 : Alkaline Changing Frequency in dipping tanks (production)
- Journal study and information collection from related departments
- Presentation on each project

Conducting lab scale and industrial scale research

- Lab testing : Total solid content (TSC), Swelling Index (SI), Total Suspended Solids (TSS), Chlorine content , Contact angle using tensiometer
- Apply the theories learnt in lab scale before running mass scale in production line



Hartalega NGC
Growing Global
Innovation & Quality



UTM
UNIVERSITI TEKNOLOGI MALAYSIA

Established in 1988, Hartalega is the world's largest nitrile glove producer, manufacturing 14 billion gloves annually. It exports to the Americas, Europe, Asia Pacific and Middle East. Hartalega was the first company to introduce soft stretchy nitrile gloves, emulating the natural properties of natural rubber latex.

QUALITY ASSURANCE DEPARTMENT

TRAINING SCOPES

All testing must meet its specifications and be done according to its parameter.

- Incoming lattices and chemicals testing
- Compounding and parameter testing
- Finished goods testing

INSTRUMENTALS



BYK
Spectrophotometer



CM-5
Spectrophotometer



Microplate
Reader

PROJECT

Protein Testing on
Glove (Finished Goods):
Synthesis of Phosphate
Buffered Saline (PBS)

LESSON GAINED



Work
Ethics



Laboratory
Skills



Adaptability
Skills

ABOUT ME



AMALIA KARMILA BINTI AZMAN
3 SSCA
CHEMISTRY DEPARTMENT

FACULTY SUPERVISOR



ASSOC. PROF. DR SEE HONG HENG
CHEMISTRY DEPARTMENT



INDUSTRIAL SUPERVISOR

MR IZZUANUDDIN BIN MUHAMMED IQBAL
QA EXECUTVE
QA DEPARTMENT

MR IVAN TAN CHEE WEI
QA MANAGER
QA DEPARTMENT

COMPANY ADDRESS AND CONTACT



HARTALEGA NGC
No. 1, Persiaran Tanjung,
Kawasan Perindustrian Tanjung,
43900 Sepang, Selangor



03-8707 3000

NUR FARAH AMIRAH RAHMAT

3 SSCA

A17SC0144

mac



MALAYAN ADHESIVE AND CHEMICALS SDN BHD

CONTACT DETAILS

Address: No. 9, Jalan Utas
15/740200 Shah Alam, Selangor,
Malaysia

Tel : +603 5566 1188
Fax: +603 5566 1122

Email: mac@mac-resins.com

SV Industry: Pn. Nur Afira
Roslan (Chemist)

INTRODUCTION

Produce adhesive resins
and formalin:

- formalin (acid based)
- adhesives (alkaline based)
 - Urea formaldehyde
 - Melamine formaldehyde
 - Melamine urea formaldehyde
 - Phenol formaldehyde
- Paper chemicals
- Contact adhesives
- Microspheres

JOB SCOPE

- Evaluation of reformulated binder product during reaction or molar ratio to produce better quality
- Evaluation of new softener product
- Quality check of raw material and finished product

LESSON LEARNT

- Team work
- Multitasking
- Time management
- Communication skills

INSTRUMENTS USED

- pH meter
- Viscometer
- Melting point
- Distillation unit
- Scrubber and Digestion unit
- Hydrometer
- Burst tester
- Flutter
- Concora medium tester

SV FACULTY

Dr. Khairil Juhanni Abd Karim



SUNGAI HARMONI SDN BHD

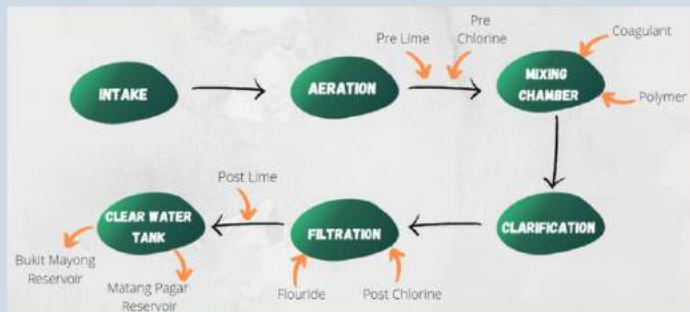
Wholly Owned Subsidiary of Taliworks Corporation Berhad

SITI MAISARAH BINTI KHAMIS
A17SC0226
3SSCA

Background of Company

- known as Sungai Selangor Water Treatment Works Phase 1 (SSP1)
- Capable of supplying water production of 950 ML/D.
- Supplies treated water to large parts of Selangor and Kuala Lumpur.

Flow Chart of Water Treatment Plant SSP1



Activities of Sungai Harmoni Sdn Bhd

- ➔ Reservoir Monitoring
- ➔ River Monitoring
- ➔ River Surveillance



Instruments

HACH DR6000 SPECTROPHOTOMETER



- Offers high-speed wavelength scanning across the UV and Visible Spectrum.
- Parameters : Aluminium, Chlorine, Color, Flouride, Iron, Manganese and Ammonia.
- The unit for these parameters are mg/L except for colour parameter is PtCo.

HACH TL2300 TURBIDIMETER



- Measured the scattered light from water samples to know the turbidity value of the sample.
- The unit for turbidity parameter is Nephelometric Turbidity Unit (NTU)

ORION DUAL STAR PH, ISE BENCHTOP



- Record accurate and reliable pH, ion concentration, mV, ORP and temperature measurements.
- accelerates sample measurement by showing the results of two channels simultaneously.
- Parameters: Ammonia & Flouride
- The unit is mg/L

LOVIBOND NESSLERISER 2250 COLOR COMPARATOR



- Use to compare the water's colour using comparator disk
- The unit is Hazen

Technical Work (Daily Routine)

JAR TEST



- The purpose is to determine the optimum dosage needed in the water treatment process.
- Each beaker of the raw water sample is treated with a different dose of coagulant.
- The dosage of raw water that has pH, turbidity, Aluminium and color will choose as optimum dosage.

Helped operators to do water testing every 2 hours

About Company

NMIM-SIRIM is responsible for the coordination of the national measurement system for Malaysia.

NMIM plays an important role in disseminating the traceability of measurement to the whole country based on the International Systems of Units.

NMIM is also responsible for conducting pattern approval of new instruments for trade purposes in order to support the enforcement of measuring instruments used in trade.

Scopes of Internship

Preparation of Methane in Nitrogen according to ISO 6142.

Analysis of Methane in Nitrogen by using GC-Methanizer FID according to ISO 6143.

Handling the GC-MS, GC-Methanizer FID and GC-FID.

Applications and Understanding on Act 304, Radiation Act 1984 in NMIM.

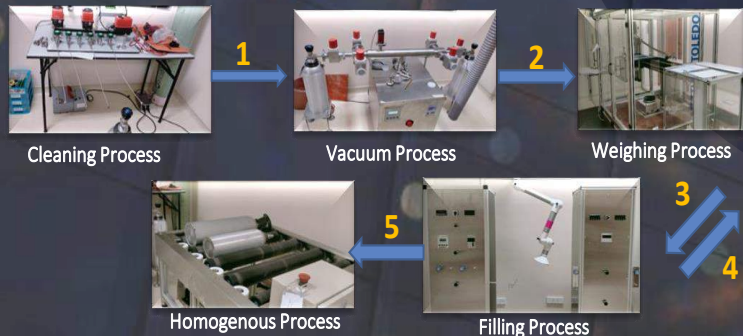
Instrumentations



Preparation of Methane in Nitrogen according to ISO 6142

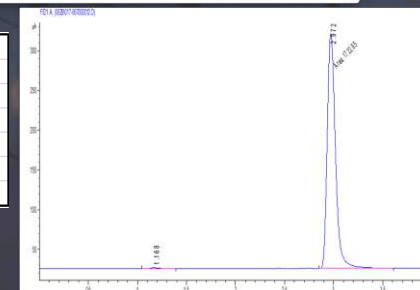
Main Tasks

Analysis of Methane in Nitrogen by using GC-Methanizer FID according to ISO 6143.



Conditions	
Column : Porapak Q 9ft x 178 in SS	Sample loop : 1.0 mL
Carrier gas : H ₂ , 5 mL/min	Sample flow : 100 mL/min
Sample valve temp. : 100 °C	Slope sensitivity : 1
Met FID temp. : 300 °C	Peak width: 0.2
Column temp. : Isothermal 40 °C(7 min)	

Condition of Analysis



Result of Analysis



NEGERI SEMBILAN

COMPANY OVERVIEW

Malaysian Cocoa Board (MCB)

is established to develop the cocoa industry in Malaysia and to be well integrated and competitive in the global market.

Cocoa Innovative & Technology Centre (CITC), Nilai

is one of the MCB division which to provide physical, chemical and microbial analysis of cocoa beans and cocoa products.

COMPANY ADDRESS

Malaysian Cocoa Board
Cocoa Innovative & Technology Centre
Lot 12621, Kawasan Perindustrian Nilai
71800 Nilai,
Negeri Sembilan,
Malaysia

JOB SCOPE

Food Safety analysis

Mycotoxin

Pesticide residues

Polycyclic Aromatic Hydrocarbon (PAH)

Heavy metals

Food analysis

Moisture content pH test

Iodine value Protein content

Fatty acid profile Free fatty acid

Fat content Particle size test

Polyphenol profile

MALAYSIAN COCOA BOARD

ANALYTICAL SERVICES LABORATORY



INSTRUMENT USED

LC-MSMS

ICP-MSMS

GC-MSMS

Faculty Supervisor
DR. SHAZWAN SHAH JAMIL

Company Supervisor
EN. BADRUL HISYAM ZAINUDIN



Cenviro through its subsidiary **Kualiti Alam Sdn Bhd**, owns and operates Malaysia's **first integrated Waste Management Centre** in Negeri Sembilan which has been in operation since 1998. The centre holds the license to handle **76 categories of 77 scheduled wastes** listed under Environment Quality (Scheduled Wastes) Regulation 2005 for **collection, treatment, recycling, recovery and final disposal**.

A Cenviro Company

Address: Ladang Tanah Merah A3 Division
71960 Bukit Pelandok P.O.Box 126
71000 Port Dickson, Negeri Sembilan
Supervisor (Ind): Puan Rahayu Rais (Manager- WEC)
Contact: 06-6662125 | rahayu@kualitiam.com
Supervisor: Assoc Prof Dr Azli Sulaiman

JOB SCOPE

- Real sampling procedure before lab analysis
- Waste inspection & evaluation
- Laboratory analysis

EXPERIENCE

- Being part of sampling team, I managed to join them to witness **drug disposal** from **Maritim Malaysia**
- Working environment in KASB & learn how waste being treated and disposed
- Join the evaluation chemist on **virtual training** with Petronas Gas Berhad

ALLOWANCE PROVIDED



UV-VIS SPECTROMETER



ICP-OES

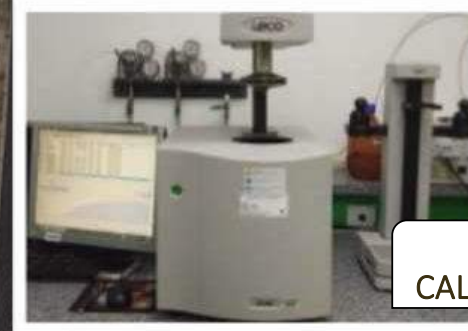


AUTOTITRATOR



FIMS

INSTRUMENTATION



BOMB CALORIMETER

www.cenviro.com.my
yuslinda@cenviro.com
career@cenviro.com

06-6662052
06-6662000



SITI NURHAZIRAH ZAKARIA | 3SSCC | WORK AS WASTE EVALUATION CHEMIST TRAINEE | www.cenviro.com.my FOR MORE INFORMATION

RESEARCH TRAINING

ZAMHARIRAH BT AHAMAD MASHAT
(3SSCA)

MALAYSIA COCOA BOARD



INDUSTRIAL SUPERVISOR

Mr Badrul Hisyam Bin Zainudin
Deputy Technical Manager
(Chemical)
Malaysian Cocoa Board (ASL)

FACULTY SUPERVISOR

Dr Hasmerya Bt Maarof
Senior Lecturer
Department Of Chemistry UTM

INSTRUMENTS



UPLC-IMS
QTOF MS



GC MS/MS



ICP MS/MS



PROTEIN
ANALYZER



EXPERIENCE

- Acquire soft skills, working ethics, confident and ability to do work independently.
- Exposed to ISO 17025:2005
- Team work, Communication skills, analysis data appropriately

ADDRESS & CONTACT DETAILS

Lembaga Koko Malaysia
Pusat Inovatif & Teknologi Koko
Lot 12621,
Kawasan Perindustrian Nilai
71800 Nilai Negeri Sembilan
Darul Khusus
Tel :06-7999001/7999004
Faks :06-794 2910

INTRODUCTION

The Analytical Service Laboratory (ASL) is one of the laboratories of Malaysian Cocoa Board (MCB), which is a statutory body established under the Act of Parliament No. 343 responsible for all activities related to the development of the cocoa industry in Malaysia.

OBJECTIVE

The objectives of the laboratory is provide reliable and accurate analytical services suited to the need of the industry in compliance with the requirement set out in MS ISO/IEC 17025:2005



TRAINING & MAIN ACTIVITIES

FOOD ANALYSIS :

Iodine value, Protein Analysis, Free Fatty Acid, Moisture Content, Ash Content, fat Content,

FOOD SAFETY :

Mycotoxin (Aflatoxin, Ochratoxin, Acrylamide), Pesticides & PAHs, Heavy Metal

EXTRACTION & CLEAN UP



Shaqer



Centrifuge



DSPE : MgSO₄ +
C18 + PSA (clean up)

SEMI-FINISHED COCOA PRODUCT ANALYSIS

- Cocoa Butter
- Cocoa Powder
- Cocoa Liqour
- Cocoa bean



MALACCA

JOB SCOPE

PROJECT

EXTRACTION OF ESSENTIAL OIL AND HYDROSOL WATER

- Natural product
- ☐ Lemongrass
 - ☐ Ginger
 - ☐ Cucumber
 - ☐ Kaffir lime



HOO LOO DISTILLATOR

QUALITY CONTROL

VISCOSITY AND pH

- ☐ Every detergent have specific viscosity and pH



DV-E VISCOMETER

PACKAGING & LABELING

- ☐ Pasting sticker on detergent bottle
- ☐ Check thickness of the sticker
- ☐ Packaging



DIGITAL THICKNESS GAUGE

DOCUMENTATION

- ☐ SAFETY DATA SHEET
- ☐ STANDARD OPERATION STANDARD
- ☐ DATA OF VISCOSITY and pH

12 WEEKS INDUSTRIAL TRAINING

LESSON LEARN

- ☐ Adaptability
- ☐ Teamwork
- ☐ Time management
- ☐ Communication skills
- ☐ Technical skills

SUPERVISOR

COMPANY	FACULTY
NUR SYAFIQAH AZWANI piqahwani@gmail.com	DR FAZIRA ILYANA BINTI ABDUL RAZAK faziraillyana@utm.my

BENEFITS

- ☐ Provide Allowance (potongan SOCSO & KWSP)
- ☐ Many things can be learn here
- ☐ All staffs are very nice and helpful

WORKING HOUR

Monday-Saturday
8.30AM-5.30PM



Daya Awana Industri Sdn Bhd started operation in year 1995
Owned by Mr David Foo, ALUMNI UTM

COMPANY ACTIVITIES

Manufacturing variety of cleaning products

71 types of
cleaning chemicals

Hard surface care, floor polishing and sealing
carpet care, air sanitizing and deodorizing
hand and body care,
car care, laundry care



COMPANY BACKGROUND

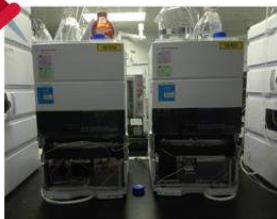
Kotra Pharma is recognised as one of Malaysia's leading pharmaceutical manufacturers, selling pharmaceutical products namely APPETON, AXCEL and VAXCEL.

TRAINING SCOPE

- Various Quality Control Tests
- Sample Preparation
- Preparation and Standardization of Volumetric Solutions
- Method Verification
- Stability Study of Volumetric Solutions



INSTRUMENTATION



HPLC



UV-VIS Spectrophotometer



Polarimeter



FTIR



GC



Karl Fisher Titrator



CHEW XIN YI

3SSCA

A17SC0029

xinyi9202@hotmail.com

Faculty Supervisor:
Prof. Dr. Hadi Nur

Industrial Supervisor:
Mr. Ankit Gupta

KOTRA PHARMA (M) SDN. BHD.

**1, 2 & 3, Jalan TTC 12, Cheng
Industrial Estate, 75250
Malacca City, Malacca, Malaysia**

+606-336 2222

www.kotrpharma.com

hr@kotrapharma.com



JOHOR



LEE PINEAPPLE CO., (PTE.) LTD.



APPARATUS & INSTRUMENTS

Autoclave Thermometer Vortexer



Refractometer

Stomacher

Centrifuge



ABOUT COMPANY

- ❑ The pineapple business for over half a century which founded in Singapore in 1931 by Lee Kong Chian
- ❑ Headquarter is in Singapore but its plantations and cannery are in Malaysia

THINGS LEARNED

- Importance of quality assurance and quality control
- Developed time management skill
- Enhanced communication skill

JOB SCOPE

- ❑ Determination of vacuum, percentage of solid, pH value, sugar strength, acidity of pineapple juice
- ❑ Determination of chlorine and iron level of water
- ❑ Double Seam Inspection
- ❑ Microbiological Testing
- ❑ Quality control of syrup and cooking process

CONTACTS :

- ❑ Address : 8 ½ Mile, Jalan Skudai, 81300, Skudai, Johor, Malaysia.
- ❑ Tel : 607-556 1411
- ❑ Email : contact@leepineapple.com

SUPERVISOR DETAILS :

- ❑ Faculty : Assoc. Prof. Dr. Shajarahtunnur Jamil
- ❑ Industry: Miss Ang Jing Jing (QA Executive)



S.D.S
SINCE 1987

SDS TOP BAKER SDN BHD
(UNDER SDS FOOD MANUFACTURING SDN BHD)

INTRODUCTION

- This organization operates as a subsidiary of SDS Food Manufacturing Sdn Bhd to provide fresh and delicious bakery products to nationwide daily.
- Bakery products:
 - ☐ Sandwich loaf
 - ☐ Rolls/Breads/Buns
 - ☐ Slice cakes
 - ☐ Cupcakes/Muffins



JOB SCOPE

- Quality Control Tests for Bread and Cake Sample:
 - ☐ Determination of pH
 - ☐ Determination of moisture
 - ☐ Determination of water activity
- Quality Control on Manufacturing Process of Bread and Cake

ABOUT ME

Name: Chong Li Ting
 Matric no.: A17SC0030
 Course: 3SSCC
 Supervisor:-
 (Faculty): Assoc. Prof. Dr. Razali Ismail
 (Industry): Mrs. Sharifah Annur Syed Mohamad



EXPERIENCES

- Hands-on practice on handling instruments
- Exploration of the bread and cake manufacturing process
- Have a better understanding on the nature of duties of QA/QC
- Enhance the critical thinking and problem solving skill



INSTRUMENTS

pH Meter



Water Activity Meter



Moisture Analyzer



CONTACT

SDS FOOD MANUFACTURING SDN BHD
 Address: No.5, Jalan Selatan 8, Off Jalan Kempas Lama,
 Kawasan Taman Perusahaan Ringan Pulai, 81200 Skudai, Johor, Malaysia.
 Tel no: +607-288 8233
 Fax no: +607-554 6334
 E-mail: info@topbaker.com



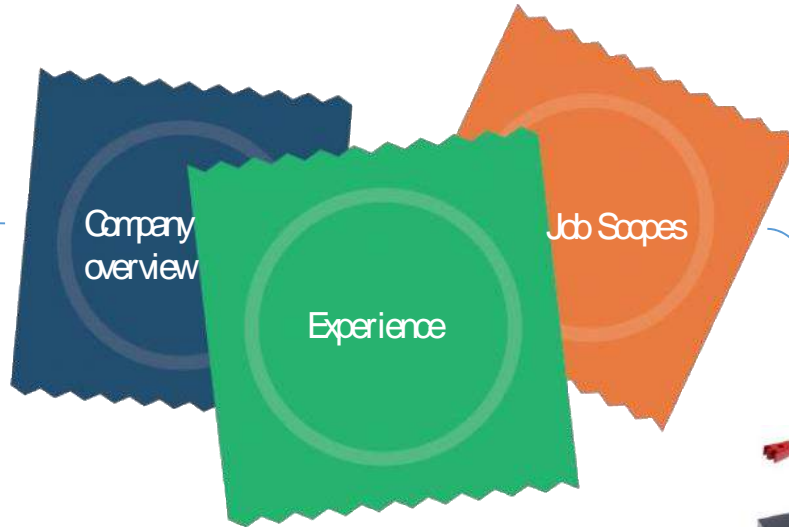
KAREX INDUSTRIES SDN BHD

World's Largest Condom Maker



CHUNG TIN KENT
R&D INTERN
3SSCC | A17SC0031
✉ kentchung678@gmail.com
☎ +60165856216

Established in 1988 to manufacture high quality natural rubber latex condoms. The Group produces a full range of condom variants to meet the ever-changing consumer demands and contribute 20% to the world's condom market.



- Understand and familiar with the complete process of condom manufacturing, testing, and packaging.
- Gain deeper insight in the polymer industry.
- Enhanced laboratory/practical skills.
- Create relationship and connections with colleagues and fellow intern.
- Improve communication skills with the ability to speak in professional setting.

- Colloidal testing
- Determination of the concentration of NH_4OH , NaOH , and Na_2CO_3 in leaching and stripping solution.
- Condom dipping-colour matching, investigation of condom production, preparation of non-sensitive powder slurry solution.
- Operational Qualification (OQ) of dipping line, H1 for P53S and P53D Thickhead condom.
- Performance qualification (PQ) of dipping line, H1 for P53S and P53D Thickhead condom.
- Follow up and summarize QC In-Process testing results, electric testing results, finished product testing and stability result.



Karex Industries Sdn Bhd
Lot 2244, BT 39 ½, Pontian Besar, 82000
Pontian, Johor Malaysia
Tel: +607 687 8833 / 6881996
Email: titi@karex.com.my
tur.syaifmah@karex.com.my
*Allowance is provided (1.2K)

Industry Supervisor
Goh Tuan Huan, Chemist@R&D department
✉ tingoh@karex.com.my
☎ +6013-6655991

Faculty Supervisor
Prof. Madya, Dr Zainoha Bt Zakaria
PROFESOR MADYA (DS54)
Department of Chemistry, Faculty of Science,
University of Technology Malaysia (UTM)

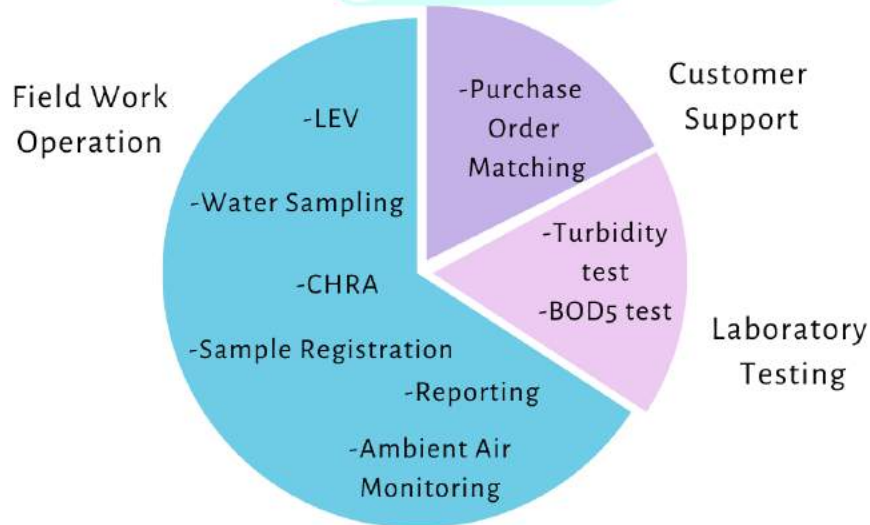


INTRODUCTION

Eurofins NM Laboratory is a certified laboratory according to MS ISO/IEC 17025. It provides various laboratory analytical testing and environmental monitoring services such as ambient air monitoring, water sampling and Chemical Health Risk Assessment (CHRA).



JOB SCOPE



INSTRUMENTS USED

pH meter
Turbidimeter
Dissolved oxygen meter
Air velocity meter
Chlorine colorimeter
Carbon monoxide meter
Ozone meter



What I have learnt?

1. The Operation of commercial laboratory

-Through industrial training, I am more understand the business and operation of a commercial laboratory from enquiry until billing. Hence, it can explore me to other fields of job after graduation such as Field Work Operation and Sales& Marketing, and not limit to chemist only.

2. The laugh and tear behind Field Work Operation (FWO)

-Under Department FWO, I was required to go for the site monitoring or other company. It was a new experience to me. Field work was more challenging compared to office work that deals with computer everyday. Field work was interesting as I can go everywhere and get to know different company. However, I was required to withstand some harsh condition such as cacophony of different machines and hot weather.

3. Some Laboratory analysis techniques

- I learnt some laboratory analysis such as turbidity test and BOD5 test and some precaution and prevention during analysis. For example, make sure no bubble in water sample when measuring dissolved oxygen level. Besides, I have opportunity to use several instruments that I never used before. Moreover, I learnt the Quality Control method for different parameters.

Synthomer Sdn Bhd

One of the world's major suppliers of aqueous polymers



Sample Testing

- 01 To determine average particular size by Malvern zetasizer.
- 02 To determine glass transition temperature by DSC.
- 03 To identify molecular weight based on molecular size by GPC.
- 04 To determine particle size distribution by CHDF.
- 05 To determine the unknown compounds by GC-MS.
- 06 To measure the surface tension.



MAH MEI YEE
R&D Intern
3SSCC | A17SC0076



010-8813822



mahmeiyee97@gmail.com

Instruments



Particle Size
Malvern
Zetasizer



Differential
Scanning
Calorimetry (DSC)



Gel Permeation
Chromatography
(GPC)



Capillary
HydroDynamic
Fractination
(CHDF)



Headspace Gas
Chromatography-
Mass Spectrometer
(GC-MS)



Surface Tensioner



07-7391116



info.asia@synthomer.com



- 1 ½ MILES, JALAN BATU PAHAT, 86000 KLUANG, JOHOR
- 73, JALAN I-PARK 1/8, KAWASAN PERINDUSTRIAN I-PARK, BANDAR INDAH PURA, 81000 KULAIJAYA, JOHOR DARUL TAKZIM.

Industrial Supervisor
Dr Cassy Chong Mun Hwa,
Project&Test Manager



012-7012011



Cassy.Chong@synthomer.com

Faculty Supervisor
Dr Norazah Basar, Senior Lecturer
Department of Chemistry, Faculty Science



012-7457576



norazahb@utm.my



Job Scope:

If you apply as Chemistry's student, you will be assigned as Laboratory Assistant. Thus, your job scope will be doing testing for some parameters on wastewater samples.

Some of the testing parameters

I was assigned for:

1. Formaldehyde
2. Cyanide
3. Ammoniacal Nitrogen
4. Phenol
5. Suspended Solid
6. MLSS and MLVSS
7. Oil and Grease
8. TKN, TN, AN (DOE)

9. Sample prep for ICP-OES

Personal details:
NUR IZYANI BINTI
MAZLAN
3SSCC (A17SC0155)

SPECTRUM

Spectrum

Laboratories
(Johore) Sdn.

Industrial SV:

Mdm. Norhartini binti
Saini

Faculty SV:

Dr. Razali Ismail

About the company:

Address:

18A, Jalan Molek 2/5, Taman
Molek, 81100 Johor Bahru,

Johor

Email:

speclab@gmail.com

Contact:

07-353 9288

Working hours:

8.45 AM – 5.00 AM

Working days:

MON - SAT

Lessons Learned:

- Working under pressure and adaptability
- Socialize with colleagues
- Work-life balance
- Laboratory skills
 - Preparing standards
- Performing QC
- Performing testing
- Time management
 - Stress management





UTM
UNIVERSITI TEKNOLOGI MALAYSIA

Growing together with 

INDUSTRIAL TRAINING INFOGRAPHIC

INTRODUCTION

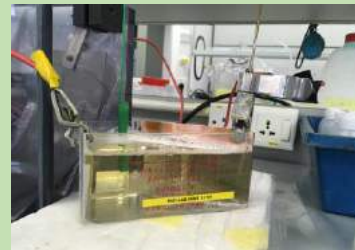
UYEMURA (MALAYSIA) SDN. BHD (UMM) was established in 1996, it is one of the subsidiaries of C. Uyemura & Co., Ltd (CUC). UMM specializes in electro and electroless plating chemicals and treatment chemicals. Other than Malaysia, there are other branches in South Korea, Singapore, Taiwan, Indonesia, Hong Kong, China, Thailand and USA. UMM is well known as a specialist of plating experts and their ability to produce a very high quality of products.

WHAT I HAVE LEARNED FROM INDUSTRIAL TRAINING

In R&D Department, I was assigned in Technical Support Team.

- ✓ Calibrate pH meter and check scrubber performance.
- ✓ Sample Analysis and run instruments.
- ✓ Prepare chemical reagent for analysis.
- ✓ Prepare standard solution for instruments.
- ✓ Electro and Electroless Plating.
- ✓ Pretreatment, plating and post treatment.
- ✓ Mini project : Tin Sulfur Plating by using Hull Cell Test.

HULL CELL TEST



INFO

FACULTY SUPERVISOR

Dr. Juan Bin Matmin

COMPANY SUPERVISOR

Dr. Wong Jia Tian
(R&D Manager)

CONTACT

UYEMURA (MALAYSIA) SDN.BHD

TEL: 07-2511566

FAX: 07-2520631

General Enquiry:

farah@uyemura.co.jp

Technical Enquiry:

jt-wong@uyemura.co.jp

Nurul Izzatie Binti Mohamad Ayub (3SSCC / A17SC0194)

**ANALYSIS AND TEST METHOD
(I HAVE DONE MYSELF)**

01 (T001) COMMON POISONS IN BODY FLUID



02 (T006) SCHEDULE POISONS IN MEDICINAL PREPARATION



03 (F0537) BASIC DRUG IN BLOOD AND URINE



04 (T001) ORGANOPHOSPHORUS / ORGANOCHLORINE INSECTISIDES



05 (T0X-4) AMPHETAMINE, MDMA, KETAMINE & METAMPHETAMINE IN URINE AND BLOOD



06 (T0X-7) CODEINE, FREE MORPHINE & 6-MAM IN URINE



07 NICOTINE IN VAPE



FORENSIC TOXICOLOGY

DEPARTMENT OF CHEMISTRY MALAYSIA (JOHOR)



ORGANIZATION INVOLVED

THE TOXICOLOGY SECTION OFFERS ANALYTICAL SERVICES FOR THE DETECTION OF "POISONS" IN MEDICO-LEGAL CASES, CLINICAL TOXICOLOGY AND THE CONTROL OF PHARMACEUTICAL DRUGS.

VARIOUS TYPE OF SAMPLES



ACTIVITY INVOLVED



INSTRUMENTATION

GC-FID

GC-MS

HPLC



LC-MS-MS

ALLOWANCE

Y/N



NURUL NATASHA BINTI YUSOFF
3SSCC
A17SC0195

SUPERVISOR INDUSTRY
ChM. Dr. MOHAMAD RAIZUL
BIN ZINALIBDIN
HEAD OF TOXICOLOGY SECTION
DEPARTMENT OF CHEMISTRY
MALAYSIA, JOHOR

SUPERVISOR FACULTY
Ts. ChM. Dr. FAIZUAN
ABDULLAH
SENIOR LECTURER (DS51) IN
DEPARTMENT OF CHEMISTRY,
FACULTY SCIENCE, UTM



**Week 1 and 12
Communication
and Information
Dissemination**

- Key in data in RAS system
- Assisting other unit

**Week 2 and 4
Schedule
Waste unit**

- Industrial visit to Lotte Chemical Titan
- Following the enforcement to audit a prescribed premise

**Week 3 and 5
Motor Vehicle
unit**

- Industrial visit to M-Fischer Tech
- Study the requirement of petrol and diesel emission



Industrial visit



**Week 6-8
Environmental
Impact
Assessment**

- Site visit to company
- Attend an EIA TRC meeting and desktop enforcement meeting
- Following the enforcement to inspect a site

**Week 9
Administration
and Finance**

- Stock counting
- Understanding the job scope of the unit

**Week 10-11
Complaint and
GIS**

- Data entry on EKAS system
- Doing map pinpoint on GIS for EKAS
- Reviewing the overall inventory of DOE

Prepared by
Nurul Syafiqah Yusri
A17SC0200



Enforcement of SW unit

**Industrial Training
in Johor
Department of
Environment**



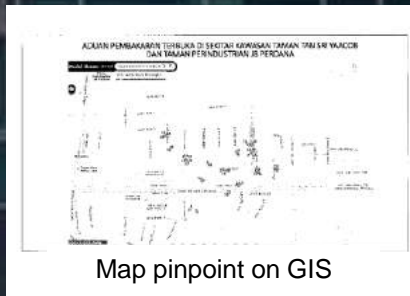
Enforcement of Post-EIA unit



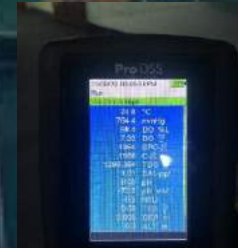
Site visit for complaint



Technometer to study the emission for diesel



Map pinpoint on GIS



YSI for water quality moiting in Surveillance unit



Desktop Enforcement meeting



JABATAN ALAM SEKITAR NEGERI JOHOR



UTM
UNIVERSITI TEKNOLOGI MALAYSIA



46, Wisma Alam Sekitar,
Jalan Pertama, Pusat
Perdagangan Danga
Utama, 81300, Johor
Bahru, Johor.

- Learn about standard of river water, underground water, marine water and air monitoring
- Demonstration of underground water monitoring equipment

SURVEILLANCE UNIT

ENVIRONMENT
IMPACT ASSESSMENT
UNIT



- MS ISO 9001 : 2015 Audit
- Site visit to new project activity : Quarry and Biodiesel

- Learn the regulations complied by industries
- Enforcement to molding plastic factory

POINT SOURCE UNIT

**JOB
SCOPE**

CONTINGENCY &
COMPLAINT UNIT



- Investigate the complaints location

- Learn about the procedure of schedule waste license
- Learn about the management of scheduled waste
- Inspection of scheduled waste at Port of Tanjung Pelepas and Pontian



SCHEDULED WASTE
UNIT

MOTOR VEHICLE UNIT

- Smoke operation inspection of lorries



PREPARED BY:
SITI HAJAR BINTI SAHIDI
3 SSCC
A17SC0225

Lotus Laboratory Service (M) Sdn. Bhd

41, Jalan Tiong Emas, Kawasan Perindustrian Tiong Nam,
81100 Johor Bahru, Johor, Malaysia.
07-2132440, 07-2132441. 07-2132442

Department

- Oil
- Food
- Water
- General
- Microbiological
- Environmental

Nutrition Fact Test

- | | |
|----------------------------------------|----------------------|
| • Sugar | • Sulphur Dioxide |
| • Moisture | • Peroxide Value |
| • Protein | • Aflatoxin |
| • Ashing | • Viscosity |
| • Fat | • Density |
| • Heavy Metals
(Pb, Sn, Hg and etc) | • pH Value |
| • NaCl (salt) | • Anisidine Value |
| • Total Dietary Fiber | • Solubility |
| • Crude Fiber | • Acidity |
| • Synthetic Colouring | • Scorched Particles |
| | • Vitamins |

Instrumentations

- Soxhlet
- Brix refractometer
- Brookfield Viscometer
- Kjeldahl distillation unit
- UV-Vis spectrophotometer
- Thin Layer Chromatography

Job Scope

- To analyte the nutrition fact of food sample received

Tan Wei Kang 3SSCC
A17SC0244

Faculty Supercisor : Dr Hasmerya Binti Maarof
Industrial Supervisor : Ms. Chin Syek Yun



HANIS ADIBAH BINTI
AZIZ

3SSCA



MyCO2
(JB) SDN BHD

15, Jalan Molek 1/8,
Taman Molek,
81100 Johor Bahru,
Johor

07- 3558811
AR@MYCO2.COM.MY



- Food department
- Water and heavy metal department
- HPLC and GC

CHEMICAL
DEPARTMENT

- Detection of various type of bacteria

MICROBIOLOGY
DEPARTMENT

- HPLC
- GC-MS/FID
- ICP-OES
- UV VIS

INSTRUMENTS

EXPERIENCES



- Exposed to real industrial working environment
- Improve laboratory skill
- Enhance communication skill
- Hands-on on laboratory work



Biocon is a global biopharmaceutical company producing insulin to treat diabetes, cancer and autoimmune diseases. Their priority is to produce products that are dedicated to offer affordable access to a specialty portfolio of medicines for all.

Vision

To enhance global healthcare through innovative and affordable biopharmaceuticals for patients, partners and healthcare systems across the globe

Biocon Sdn Bhd Products



Tel : 07-560 0000

Email : queries.malaysia@biocon.com

QCA – In Process Testing Laboratory, QCA-Raw Material and Finished Product Testing Laboratory



Personal Information

Jegthiswary A/P Suresh
 A17SC0056
 3SSCA

Industrial Supervisor

Ms. Nurfarhana Binti Mohammad Zain
 Ms. Nadia Hanis Binti Hashim

Faculty Supervisor

Assoc. Prof. Dr Azli Bin Sulaiman

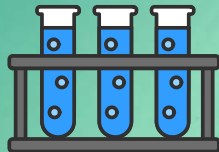
JOB SCOPE



- Conduct the sample analysis
- Data collection
- Perform quality control test
- Assists other staffs

WATER QUALITY TEST

- Fluoride
- Chloride
- Ammonia
- Color
- Hardness
- Total Dissolved Solids (TDS)
- pH



MINI PROJECT (TDS)

To see the differences between 2 types of analysis methods

- TDS Dried at 180°C - APHA 2540 C
- TDS-HACH Direct Measurement



Procedur e



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WATER QUALITY DEPARTMENT

WATER TREATMENT PLANT



CHEMISTRY LAB



MICROBIOLOGY LAB



MARNI MOHAMAD KASIM
3/SSCA
A17SC0078

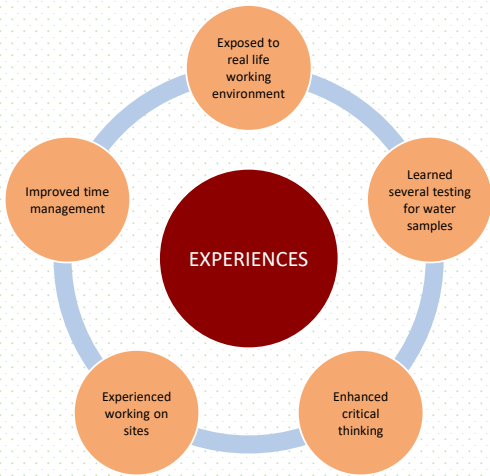
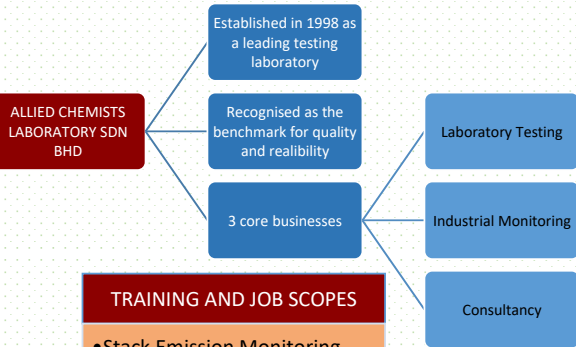


Telephone No. : +607-4559726

Fax No. : +607-4559726

Email : makmalpusat@ranhillsaj.com.my

Website : <https://ranhillsaj.com.my>



- TRAINING AND JOB SCOPES**
- Stack Emission Monitoring
 - Ambient Air Monitoring
 - Sewage Water Monitoring
 - Industrial Effluent Monitoring
 - Environmental Noise Monitoring
 - Drinking Water Monitoring
 - Local Exhaust Ventilation
 - Chemical Exposure Monitoring
 - Noise Risk Assessment
 - Industrial Effluent Characteristics Study
 - Chemical Hazard Risk Assessment



INSTRUMENTATIONS



INTRODUCTION



Naziea Al Atiq binti Aljeffry
A17SC0112 (SSCA)

Company :
Allied Chemists Laboratory Sdn Bhd

Location :
10, Jalan Bakawali 68, Taman Johor Jaya, 81100, Johor Bahru, Malaysia

Position :
Trainee

Internship Date :
20th July - 9th October 2020



PERSONAL DETAILS

NOOR SHARFIQA MOHD DIAH
A16SC0304
4SSCA
nrsharfiqa97@gmail.com



ORGANIZATION PROFILES

Pusat Perkhidmatan Analisis (PPA)

Jabatan Kimia, Fakulti Sains,
Universiti Teknologi Malaysia,
81310 Johor Bahru, Johor, Malaysia.
Tel: +607-5534540

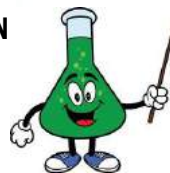
Website:

<https://science.utm.my/ppa/#>

SUPERVISOR DETAILS

DR AEMI SYAZWANI ABDUL KEYON
(SV INTERNSHIP)

PM. DR ZAINOHA ZAKARIA
(SV FACULTY)



JOB/TRAINING SCOPE

METHOD VALIDATION FOR FIMS-100 ACCREDITATION

- INSTRUMENT DETECTION LIMIT (IDL)
- LIMIT OF DETECTION (LOD) & LIMIT OF QUANTITATION(LOQ)
- LABORATORY-FORTIFIED MATRIX (LFM)

HANDLE FLOW INJECTION MERCURY (FIMS-100) INSTRUMENT

HANDLE MICROWAVE DIGESTION

PRICELESS EXPERIENCES

- WORKING SMART UNDER PRESSURE**
- WORK INDEPENDENTLY BY CREATING OWN WORK SCHEDULES**
- INVOLVED IN INTERNAL AUDIT AND MEETING**
- BASIC TRAINING ABOUT GFAAS**



PRICELESS EXPERIENCES

- PATIENCE**
- EFFECTIVE COMMUNICATION**
- TEAMWORK**
- RESPECTS**





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NUR INTAN NAJIAH BINTI AHMAD FAZLY

3SSCA / A17SC0152

INTRODUCTION

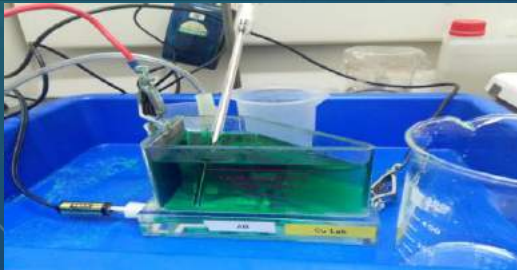
UYEMURA (MALAYSIA) SDN. BHD (UMM) was established in 1996, it is one of the subsidiaries of C. Uyemura & Co., Ltd (CUC). UMM specializes in electro and electroless plating chemicals and treatment chemicals. Other than Malaysia, there are other branches in South Korea, Singapore, Taiwan, Indonesia, Hong Kong, China, Thailand and USA. UMM is well-known as a specialist of plating experts and their ability to produce a very high quality of products

FACULTY SUPERVISOR

- Dr Hasmerya Binti Maarof
- Lecturer of Faculty of Science

INDUSTRY SUPERVISOR

- Pn Engku Fadzilah Binti Engku Hamzah
- Senior QA Chemist (QAQC Department)



HULL CELL TEST

TRAINING SCOPE

I was assigned my research training in QAQC Department under the supervision of QA Senior Chemist. I was trained for three different categories such as technical work, chemical control and ISO documentation.

WHAT I HAVE LEARNED FOR MY RESEARCH TRAINING

I was assigned under QA Lab and involved in doing the verification of the instrument such as the pH meter and the densitometer as my routine task. Other than that, I was trained to do the sample testing such as:

- Check the specific gravity and pH of sample and involved in doing titration method.
- Check the impurities of heavy metals and organic ingredients in sample by using Atomic Absorption Spectrophotometer and UV-VIS Spectrophotometer.

Next, I was exposed and involved in doing the electroless nickel plating and electroplating (Hull Cell Test).

Then, I was involved in the documentation work

- ISO Documentation (ISO 9001:2015, ISO 14001:2015 and ISO 45001:2018)
- Revised the ISO manual and prepare the document revision.
- Chemical Control (CLASS 2013 Regulation and Industry Code of Practice)
- Compiled the Safety Data Sheet (SDS) for raw material, lab reagent and finished goods and revised the labelling for finished goods of UMM.

CONTACT

UYEMURA (MALAYSIA) SDN.BHD

TEL: 07-2511566

General Enquiry: farah@uyemura.co.jp

FAX: 07-2520631

Technical Enquiry: jt-wong@uyemura.co.jp

INDUSTRIAL TRAINING

NUR ISMALINA BT IBRAHIM
3 SSCA
A17SC0154



MYCO2 (JB) SDN BHD

- 15, Jalan Molek 1/8, Taman Molek, 81100 Johor Bahru, Johor
- Currently operating in Perai (Penang), Shah Alam (Selangor) and Johor Bahru (Johor)
- Specialize in the following categories: air pollutants, feed, health care, industry products, iron ore, noise, oil, radiation, toys and water.
- Also offer industrial hygiene assessment and environmental monitoring services.
- Apart from testing, we also offer industrial hygiene assessment and environmental monitoring services.



LAB AND TASK ASSIGNED

Lab and Department

Chemistry

Microbiology



- **Food**
(protein, fat, moisture, total dietary fibre, ashing)

- **Water**
(BOD, COD, ammoniacal nitrogen, cyanide, phenol, total hardness, oil and grease)

- **Heavy metal**
(Digestion)

- **Preparation of media**
(Weighing, dispensing and autoclaving media)
- **Determination of Bacteria**
(Salmonella, E. Coli, Coliform, TPC, Listeria)



LESSON LEARNT DURING INTERNSHIP

- Ability to adapt to new working routine and environment
- Learn on how to manage time wisely to ensure all the task assigned can be completed on time
- Learn about work ethics such as discipline and integrity
- Improve on communication skills



INTRODUCTION :

RAHMAT DANIEL BIN ROSMAN
BACHELOR OF SCIENCE (CHEMISTRY)
3SSCA A17SC0209

SUPERVISOR :

- INDUSTRY : PUAN SITI NOOR I. M. ZIN
- FACULTY : DR SUSILAWATI TOEMEN

DURATION INTERNSHIP : 3 MONTH

DIVISIONS :

TECHNICAL SUPPORT

LIST OF ACTIVITIES :

- SAMPLE EVALUATION
- PRODUCT STABILITY MONITORING
- SAFETY DATA SHEET
- PRODUCT DEVELOPMENT
- TECHNICAL DATA SHEET
- EXTERNAL INQUIRY
- PRODUCT REGISTRATION
- INTERNAL INQUIRIES

PROJECTS :

- THE PREPARATION OF METHYL ESTER FROM VEGETABLE OILS C
- EVALUATION OF CELLULOSE AS FILTERING AID
- ISOPROPANOL CONCENTRATION VIA PERVAPOARATION TECHNIQUES
- HYDROGENATION



NATURAL OLEOCHEMICALS SDN BHD (NatOleo)

About company

Wilmar International Sdn Bhd, founded in 1991 which is based in Singapore. NatOleo is one of the subsidiaries in Wilmar. NatOleo is one of the world's largest oleochemical producer. The main feed materials such as crude palm kernel oil and refined stearin. This raw material is undergoes the process of pulverization from the fruit of palm tree, where the palm kernel oil is extract from the flesh and the palm oil are come from mesocarp of the fruit

Products : Glycerin, soap noodles, esters and Fatty Acid.

Address : Natural Oleochemicals Sdn Bhd,
PLO 428, Jalan Besi 1, 81700, Pasir
Gudang, Johor, Malaysia.

JOB SCOPE :

- TO ASSISTS TECHNICAL SUPPORT CHEMIST TO CONDUCT, ANALYSES, TESTING AND INSPECTIONS OF SAMPLE, INCLUDING FATTY ACIDS AND GLYCEROL.
- TO ASSISTS TECHNICAL SUPPORT CHEMIST TO DO SAMPLING
- TO ASSISTS TECHNICAL SUPPORT TO PERFORM LAB TRIAL RUN



Teh Yi Hui
A17SC0249
3SSCA

Eco Bee Shop Sdn Bhd

- Establish since 2002

- Provide premium quality of bee products

- Conserve the environment that sustains honey bee ecosystem

Contact Address

Eco Bee Shop Sdn Bhd

79, Jalan Lagenda 4, Lagenda Industrial Park, 81000 Kulai, Johor, Malaysia

Johor, Malaysia

TEL: +6016-7626728

Email: thebeeshop@gmail.com

Organizational Supervisor:

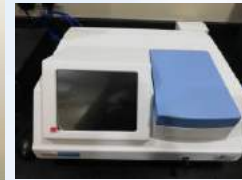
Madam Cathie

Faculty Supervisor:

Dr. Juan Matmin



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Quality Control (QC) Test



Documentation



Research & Development



INDUSTRIAL TRAINING

A17SC0014 3SSCC

Industrial Supervisor: MS NUR AIRUL AIN BINTI ASHRI
Faculty Supervisor: PROF. DR. ABDULL RAHIM MOHD YUSOFF

OBJECTIVE

- To expose students to the working environment which is related to their course of study
- To practice and implement soft skills in the actual working environment

COMPANY OVERVIEW

- Established in 1991
- Malaysia's first and largest integrated producer of olefins and polyolefins
- One of the largest polyolefins producers in South-East Asia

INSTRUMENTS AND PROJECT

MELT FLOW INDEX TESTER

To measure the Melt Flow Rate of a thermoplastic polymer



NUCLEAR MAGNETIC RESONANCE

To determine percentage of Xylene Solubles in PP flake



X-RAY FLUORESCENCE SPECTROMETER

To determine the concentration of additives in PE and PP



EXPERIENCES GAINED



Communication

Improve communication skills to communicate with different people to avoid miscommunication and convey effective communication



Performing Tasks

Inculcate time management skill to perform multiple tasks and complete within timeframe, independent as well as good team player



Profession Ethics

Prepared physically and mentally for more complex challenges in the future and exhibits profession in workplace



As a whole, having industrial training in Lotte Chemical Titan Malaysia is indeed a good and beneficial experience.

FPG OLEOCHEMICAL S SDN. BHD.

One of the Largest
Oleochemical Facilities in The
World

JOB
SCOPE
(QA)

- ✦ Verification on External Calibration Master List Versus Virtual Calibration in Lab
- ✦ Visual checking on Technical Standard
 - ✦ Monthly KOBI inspection
- ✦ Prepare Training Material and Knowledge Check
 - ✦ Validation of New Instrument
- ✦ Data Gathering, Organizing, Updating and Analyzing Data

PRICELESS
EXPERIENCE

- ✦ Expose to real life of working environment
- ✦ Participate in and learn about the audit system preparation
 - ✦ Able to learn about all instruments used in Analytical Lab
- ✦ Explore process of making from the very beginning to the end
- ✦ Participate in audit trail of Ester and Alcohol
- ✦ Learn about Certification Body

INTRODUCTION

ALLOWANCE
PROVIDED

✦ FPG Oleochemicals Sdn. Bhd. is a joint venture between **FGV** and **P&G**

Felda Global Ventures

- ✦ The largest palm oil producer in the world

Procter & Gamble

- ✦ One of the Largest Consumer Products Company in the World

MAJOR
PRODUCT

- 1) Methyl Ester
- 2) Fatty Alcohol
- 3) Refined Glycerin

DINIE IZZATI BINTI CHE OMAR
(3SSCC)
SV: Prof. Dr. Hadi Nur (UTM)
Siti Hajar Ahmad (FPG)

abdulrahman.tr@pg.com
Tuan Rozaimah Tuan Abd Rahman
HR Recruitment Associate

Liew Wai Zhen (A17SC0068) 3SSCC in

Daily R&D verification test:



JOB SCOPE & TASK

- Support my supervisor performing verification tests on several products such as videoscopes and patient monitoring & diagnostic device.
- Perform visual inspection and dimensional checking for the raw material of the products which is also known as 'First Sample Assessment'.



TEST OF ECG AND EMG ELECTRODE



TEST PERFORM

- BACKING CAP PEEL TEST
- PEEL TEST
- PULL TEST
- RELEASE PAPER PEEL TEST
- SIMULATED PEEL TEST



Ambu® BlueSensor & Neuroline



Ambu® Neuroline Concentric

- NOISE TESTER
Perform Noise Test
- GAMRY TEST
Perform Impedance Test

INSTRON (Tensile Test Machine)

TEST OF ENDOSCOPY

- Image quality -Using aView, Colour chart, white surface and wordings test fixtures

- Bending Angle- Using Angle chart



aScope™ 4 Cysto



aScope™ Duodeno



aScope™ 4 RhinoLaryngo Slim



Supervisor Details

- Puan Noor Rashimah Binti Salim
- 04-2529061
- NRS@ambu.com



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Solution Makeup Log Sheet Improvement

- To modify the solution makeup log sheet for the safety of employee during transferring solution into solution tank

TSC specification for EOS

- To proposed a new TSC spec for X-SBR grade (T56R60, 29Y57, 30Y10)
- Objective is to shorten the stripping hours by reducing the TSC specification

Mechanical Isolation

- Improving the mechanical isolation method using chains and cable to a more simple and light weight cable and padlock with identification number

Jar Test for Seed Latex Trial

- Jar testing to identify either the current effluent treatment at IETS (bio plant) can treat (coagulate and separate) the effluent containing seed latex

Analysis for residual monomer

- To analyse the residual monomer content in latex after the stripping process and make sure its within specification range

Determination of BIT concentration in Latex

- Determine the concentration of BIT in latex grade EL2664
- EL2664 have lower concentration of BIT compare to other latex grade

Analysis of Chemical Oxygen Demand (COD)

- Analyse the COD of the waste water before it is discharge
- Make sure COD level within DOE standard B



Company Profile:

1. Synthomer is one of the chemical companies that specialized in polymers.
2. Product ranges from synthetic nitrile butadiene rubber (X-NBR), styrene butadiene rubber (X-SBR and others.
3. There are 12 reactors (8 small and 4 large reactor), 8 stripper and compounder that currently working at NBR sites

Instrument Use:

1. Gas Chromatography (GC)
2. High Pressure Liquid Chromatography (HPLC)
3. Colorimeter

Prepare by:

Mohammad Khairin Hadif bin Arman
3SSCC
A17SC0084

MISE ENERGY SDN BHD

INTERNSHIP TRAINING

MISE ENERGY SDN BHD

ESTABLISHED IN AUGUST 2015

Primarily to provide Specialized Production Enhancement (SPE) services to Oil Operators and Services Company in the Asia Pacific region

CRUDE PALM OIL PROJECT

CHEMICAL SCREENING TEST

Evaluate different types of surfactants based on their capability to reduce or eliminate water in oil emulsion and producing better oil and water quality. remove chloride content present in crude palm oil

TRAINING CLASS

PETROLEUM INDUSTRY

Introduced to oil and gas industry, learn the mechanism and equipment in reservoir and wellbore. Gain an understanding about various testing in petroleum industry

SITE VISIT

PRIDE EQUIP SDN BHD

Detail conversation about real life work experience in petroleum industry from PRIDE EQUIP's manager. Introduced to several equipment used at reservoir and wellbore



**Geolab (M) Sdn.
Bhd.**
Contact No: 07-2415932



MUHAMMAD IZHARNUR HAZIQ BIN HIZAM
A17SC0102
3 SSCC

Industrial Supervisor: Mrs Nurul Akmaliah Binti Hussin
Faculty Supervisor: Dr Norazah Binti Basar

INTRODUCTION:

OVERALL:

Already for more than a decade, Geolab (M) Sdn. Bhd. has been recognized as the provider of test solutions required to evaluate the mechanical properties, strength and durability of a wide variety of structures and roadways to our client.

CHEMISTRY DEPARTMENT:

In line with company mission to be the leading multidisciplinary testing services in this region, Chemistry Laboratory was set up in 1997 to serve the industry's need for Chemical Testing.

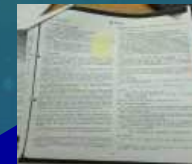


INSTRUMENT HANDLED:



JOB SCOPE:

1. Hazard Identification of Chemicals
2. Documentation (Sample Preparation, Procedures & SDS)
3. Calibration (Intermediate Check)
4. Experiment (E.coli Test)



Jabatan Kimia Malaysia

Jabatan Kimia Malaysia (Department of Chemistry Malaysia) is one of the government departments under the Ministry of Science, Technology and Innovation (MOSTI) that offers the analytical, investigative and scientific consulting services to government agencies. It aims to support law enforcement in conjunction with the implementation of programs that relates to water, food, environment and industrial products to protect and promote public health and safety for the larger public and protect the interests of consumers as well as health and safety at work. It also offers technical and consulting services in evaluating product requirements for public agreements to guarantee value for government expenditure such as classifying customs tariffs for imports and exports – tax collection reasons and ensuring government revenue besides assessing chemical laboratories for compliance with ISO standards.

Industrial and Customs Tariffs Section

Industry and Custom Tariff section serves to provide analytical and advisory services to various government agencies to support law enforcement, protect government revenue and protect consumers.

Job scopes

Perform analysis of major enterprise products, such as analysis of oil palm products, petroleum products, alcoholic beverages, halal /haram products of leather and fur, and cigarettes for enforcement purposes

Mini project

DETERMINATION OF IODINE VALUE (IV) IN SOYABEAN PRODUCTS BY NIRS

1. To determine the accuracy and precision of the method for determination of iodine value (IV) in soyabean products using Near Infrared Spectroscopy (NIRS). The accuracy and precision are evaluated by comparing NIRS predicted result and the result obtained by the reference method.
2. To ensure that the NIRS calibration is fit for routine use in the laboratory if performance characteristics meet acceptance criteria.



Contact

Industrial Supervisor:
Puan Azian Murni bt Abd. Ghani
Head of Industrial and Customs Tariffs Section

Faculty Supervisor:
Dr. See Hong Heng
Lecturer Department of Chemistry Universiti Teknologi Malaysia

Student information

Nur Nabilah bt Mohd Rothi
A17SC0156



INTRODUCTION



Jabatan Kimia Malaysia Cawangan Sibu is one of the agencies that aims to support law enforcement together with the implementation of programmes related to water safety, food, environment and industrial products to protect and develop public health and safety to the public.

Also to ensure the government's revenue and evaluation of chemical laboratory for compliance with ISO standards.

EXPERIENCES

- Able to explore all kinds of lab and testing
- Enhance lab work skill
- Improve time management
- Improve interpersonal skill



TESTING AND ANALYSIS

Water and environmental laboratory

- Ammonia-selective electrode
- TSS
- COD



TOXICOLOGY LABORATORY

- Screening for Basic Drugs in Blood By GCMS
- Quantitative of Ethyl Alcohol in Blood Fluids by GCFID

NARCOTIC LABORATORY

- Analysis of cannabis
- Screening of basic drugs by GCMS
- Quantitative of Ethyl Alcohol in Blood Fluids by GCFID

FOOD LABORATORY

- Analysis of Cigarettes

HAND-ON NEW INSTRUMENT



ABOUT COMPANY

Jabatan Kimia Malaysia is one of the government agencies that provide scientific analysis and consultancy to not only other government agencies but also to private agencies. Jabatan Kimia Malaysia Negeri Perak is one of the branches that provide services for Negeri Perak and states nearby.

Pesticide Analysis Reference Center was built to provide scientific analysis and consultancy of residue pesticide contained not only in vegetables and fruits but also in water. Analysis of pesticide residue was done by using gas chromatography (GC) and liquid chromatography (LC).



PROJECT

VERIFICATION OF METHAMIDOPHOS, ACEPHATE AND MONOCROTOPHOS

To verify method to determine methamidophos, acephate and monocrotophos using LC-MS/MS. The extraction of samples (apple and cucumber) is been carry on by using QuEChERS method where PSA (primary secondary amine) is been used as sorbent.



EXPERIENCE

- Sample preparation for analysis
- Learn on how to run instrument LC-MS/MS
- Learn on how to run instrument GC-MS
- Learn on how to troubleshoot and do maintainance for LC-MS/MS
- Learn on how to do documentation
- Learn on how to callibrate micropipette

ABOUT ME

AISYAH SYAZWANI BINTI ROSAZLAN
3 SSCA (A17SC0013)
CHEMISTRY DEPARTMENT

SUPERVISOR DETAILS

FACULTY:

PROF. DR. WAN AINI BINTI WAN IBRAHIM
LECTURER OF FACULTY SCIENCE

INDUSTRY :

MAZNI BINTI MUSTAPHA ALI KHAN
CHEMIST OF PESTICIDE ANALYSIS
REFERENCE CENTER



Jabatan Kimia Malaysia (Johor Branch)

Narcotic Section

Name: Muhammad Syafiq bin Hazlan (3 SSCA)

- Faculty Supervisor: Assoc. Prof. Dr. Razali Ismail
- Organizational Supervisor: Ms. Liew Chyi
- Email: liewchyi@kimia.gov.my

Jabatan Kimia Malaysia (Malaysia Chemistry Department), or KIMIA, is one of the government agencies under the Ministry of Science, Technology and Innovation (MOSTI) that offers the analytical, investigative and scientific consulting services to government agencies. Centre of Analysis for Forensic Science can be divided into 4 major sections:

- Narcotics
- Toxicology
- Criminalistic
- DNA

Narcotic Section provides analytical services to analyze drugs which are categorized under Dangerous Drugs Act 1952 and Poison Act 1952. The analysis of drugs involves qualitative analysis and quantitative analysis towards the drug sample.

Drugs can be categorized into three types, which are:

- Semisynthetic drugs
- Synthetic drugs
- Plant-based drugs



Drugs That Are Usually Being Analyzed:

- Heroin/MAM
- Methamphetamine (syabu)
- Cannabis (ganja)
- Ketamine
- MDMA (ecstasy pills)
- Ketum water/leaves
- Nimetazepam (Erimin 5)



Instruments:

- Gas Chromatography-Mass Spectrometer (GC-MS, used for **QUALITATIVE ANALYSIS** of drugs)
- Gas Chromatography-Flame Ionization Detector (GC-FID, used for **QUANTITATIVE ANALYSIS** of drugs)



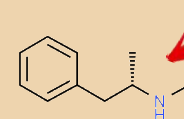
GC-FID (Agilent Technologies)



GC-MS (Agilent Technologies)

Mini Project:

- Verification method of Identification of methamphetamine using portable FT-Raman Spectroscopy
- Objective: to determine the detection limit (LOD) of the Raman in detecting methamphetamine**



Detection of methamphetamine using portable Raman



ABOUT ACM

Agricultural Chemicals (M) Sdn. Bhd. (ACM) was established in 1969 and located in Penang, Malaysia. ACM is a Japanese-Malaysian joint-venture company. The current shareholders are Nihon Nohyaku Co., Ltd., Marubeni Corporation and Pertubuhan Peladang Kebangsaan (NAFAS). From its core business as a pesticides formulator, ACM has grown into a leading industry player for agrochemicals, farm machinery and environmental health products.



Job Scope

- Write coupon for *Skim Insentif Penge-luaran Padi (SIPP)*.
- Pick-up customer's order at the ware-house.
- Assist Ms. Niki for fertilizers project.
- Assist ACM staff during the exhibition, *Mesyuarat Agung Tahunan (MAT) at Tambunan and Ranau*.
- Do the office work.



SUPERVISOR

Faculty: Dr. Hasyim Bin Baharin

Industry: Mr. Mohd Asri Bin



Project

Conduct product trial on the Efficacy of Satunil 60 EC against general weed control applied at 5-20 days after sowing (DAS) on hilly paddy.

Objective

To verify and validate the efficacy of Satunil 60 EC in terms of:

- Effective dosage and timing of application for Satunil 60 EC.
- Phytotoxicity effect on paddy.

About Me

Norhaninah Binti Abdul Manan

A17SC0120 (3SSCA)



INDUSTRIAL TRAINING

NUR AIN NAZZUA BINTI USRI

A17SC0131

3SSCA

- MY CO2 SDN BHD are currently operating in Perai (Penang), Shah Alam (Selangor) and Johor Bahru (Johor).
- MYCO2 PRAI SDN BHD is located at 16, Lengkok Kikik 1, Taman Inderawasih, 13600 Perai, Pulau Pinang
- Specialize in the following categories: air pollutants, feed, health care, industry products, iron ore, noise, oil, radiation, toys and water.



Lab Assigned

WATER DEPARTMENT



TESTING PARAMETER

- Total Suspended Solid
- Colour
- Total dissolved solid
- Conductivity
- MLVSS/MLSS
- Total Solid
- Sulphate
- Turbidity
- Oil & Grease
- pH



- Improve communication skill
- Hand ons on certain machine
- Experience a real life working
- Gains a new knowledge

EXPERIENCE GAINS

INTERNSHIP INFORMATION

- **Faculty Supervisor:**
Assoc. Prof. Dr. Che Rozid Bin Mamat
- **Industrial Supervisor :**
ChM. Dr. Mohamad Fauzi Bin Ahmad.
- **Specific Internship Placement :**
Gas Section, Chemical Group,
National Metrology Institute of
Malaysia (NMIM), SIRIM Berhad.
- **Internship Duration :**
20 July 2020 - 09 October 2020.

COMPANY BACKGROUND

- National Metrology Institute of Malaysia (NMIM), SIRIM Berhad is a statutory unit that operating under SIRIM Berhad.
- NMIM are responsible in :
 - Facilitate domestic and international trade as well as ensuring safety, health and environment for Malaysian through measurements.
 - Plays an important roles in propagating the traceability of measurement globally complying the SI Units.



MAIN PROJECT

- The main project that I did throughout the research training period is **Preparation Propane/Carbon Monoxide in Nitrogen**.
- There are 2 main tasks involved which are :
 - Preparation of calibration gas mixture.
 - Analysis of gas using GC-FID-TCD or GC with Flame Ionization Detector and Thermal Conductivity Detector.
- The purposes of this project are to:
 - To prepare MyRM (Malaysia Reference Materials) of Propane/Carbon Monoxide in Nitrogen according to ISO 6142.
 - To analyze standard gas using GC/FID/TCD and Gas Analyzer according to ISO 6143.
 - To perform the necessary purity analysis on the materials used in the gas mixture preparation.



GC- FID TCD



VEHICLE EXHAUST FUMES

ENFORCEMENT BODIES INVOLVED WITH GAS ANALYZER



OTHER JOBSCOPE

- Handling gas management such as procurement and purchasing of gases such as Purified Air, Purified Nitrogen, Purified Helium & Purified Hydrogen as well as gases installation into gas system.
- Monitored and handled the calibration of survey meter and services of personal monitoring.
- Attend radiation protection courses.



SURVEY METER



PERSONAL MONITORING



GAS CYLINDER

APPLICATIONS OF PROJECT

- Preparation of Standard References Materials is important as it would be used as standard references for calibration and verification of mandatory equipment such as gas analyzer.
- Gas analyzer used by PUSPAKOM and Department of Environmental (DOE) to verify the percentage of Carbon Monoxide and concentration (ppm) of Propane in vehicle exhaust.



Provides scientific analysis, investigation, and consulting services to government agencies. Aims to support law enforcement along with the implementation of programs related to water safety, food, environment and industrial products.



Provides technical and consulting services in product specification evolution for government contracts to ensure value for government spending; custom tariffs on imports and assessment of chemical laboratories for compliance with ISO standards.

TASK DESCRIPTION

- ❖ Centre of Analysis for Drinking Water, Food and Environmental Safety
 - Food Quality Division
 - Water Quality Division
 - Biotechnology Division
 - Environmental Quality Division
- ❖ Positioned at Trace Organic Compound Section under Environmental Quality Division
- ❖ Assigned to learn some parameters:
 - Oil and Grease (OG)
 - Organochlorine Pesticide (OCP)
 - Benzene
 - Biochemical Oxygen Demand (BOD)
 - Dissolved/Dispersed Petroleum Hydrocarbon (DDPH)

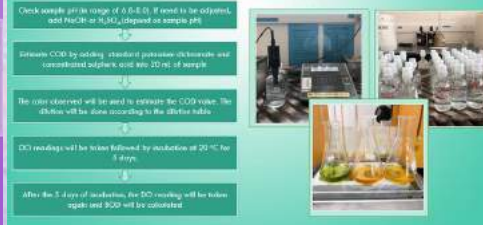
OIL AND GREASE

The method is used to determine the concentration of OG in industrial sewage, leachate, wastewater, effluent, surface water and palm oil/rubber mill.



BIOCHEMICAL OXYGEN DEMAND

The method is used to determine the concentration of BOD in water

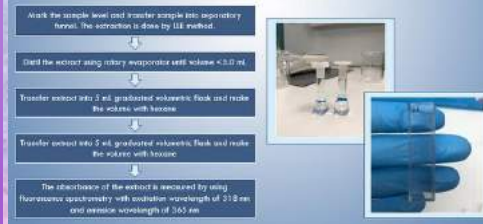


OIL AND GREASE



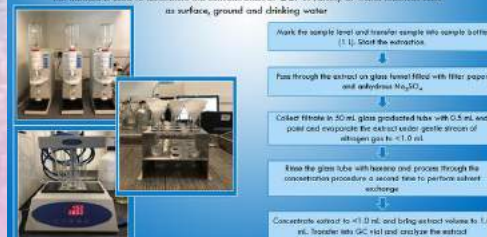
DISSOLVED/DISPERSED PETROLEUM HYDROCARBON

The method is used to determine the concentration of DDPH in sea-water



ORGANOCHLORINE PESTICIDE

The method is used to determine the concentration of OCP in variety of water matrices such as surface, ground and drinking water



BENZENE

The method is used to determine the concentration of benzene in gasoline





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Contact:

☎ 07-2881982
✉ enquiry@beeshop.com.my



Personal Information

Pung Ye Tim
SSCA
A17SC0207

Organization's Supervisor

Madam Cathie Tan Ah Tee
Director of
Eco Bee Sdn Bhd

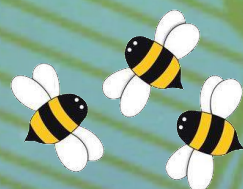
Faculty Supervisor

Dr Fazira Ilyana binti
Abdul Razak

Job Scope

- ☐ Documentation for GMP and OSHE
- ☐ Conduct Quality tests
- ☐ RnD on Honey propolis gummy

Experience Gained

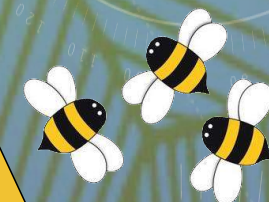


Enhance
Communication skill

Hands on
operating skill

Apply
theoretical
knowledge

Develop
company
product



Instrument handled



UV-Vis Spectrometer



HPLC



Gas Chromatography



Lab test



Development of Honey Propolis Gummy

Industrial Training Department Of Environment (DOE)

WHAT IS DOE?

Department of Environment was responsible to prevent, eliminate, control pollution and improve the environment, consistent with the purposes of the Environmental Quality Act 1974

- Divided into 3 unit:
- Administration Unit
 - Development Unit
 - Enforcement Unit

ADMINISTRATION UNIT

Learn on how to arrange the files by company and their series number
Learn what KewPA 7 and how to manage the data
Learn on how to answer and transfer call also on how to receive the letter from others

DEVELOPMENT UNIT

Be able to learn in 3 sub unit which is EIA, Notification and supervision unit
EIA - Basically learn on how to monitor the ongoing project which already have been approved
Notification - received application through letter on how to build new industries
Supervision - distribute the awareness to keep the environment clean

ENFORCEMENT UNIT

Enforcement Unit was divided into 4 sub unit which PT1, PT2, PT3, PT4 (PT - Punca Tetap)
PT1 - handling Loji Rawatan Air basically to see their final discharge so that it will not contaminate the sea or nearby river
PT2 - enforcement at waste disposal site, and small industries

ENFORCEMENT UNIT

PT3 - Handling complain from people and also Premis yang ditetapkan (PYDT) and also to monitor and enforce prescribed premises that operate under scheduled waste operation license
- Palm Oil
- Rubber
- Scheduled Waste

ENFORMENT UNIT

PT4 - Prosecution section that will involve the court. Handling sewage, haemodialysis, clinics and hospital to see their clinical waste



Haemodialysis to check on their clinical waste and Ewis



Sewage place at Vishay Semiconductor



APCS (air pollution control system) at Xinyi Solar Sdn Bhd



Indah Water Konsortium Case due to overflow effluent



EIA Project and to monitor Siti Curtain



My final project presentation and received certificate from DOE

REHPRO

REHPRO SCIENTIFIC SDN BHD

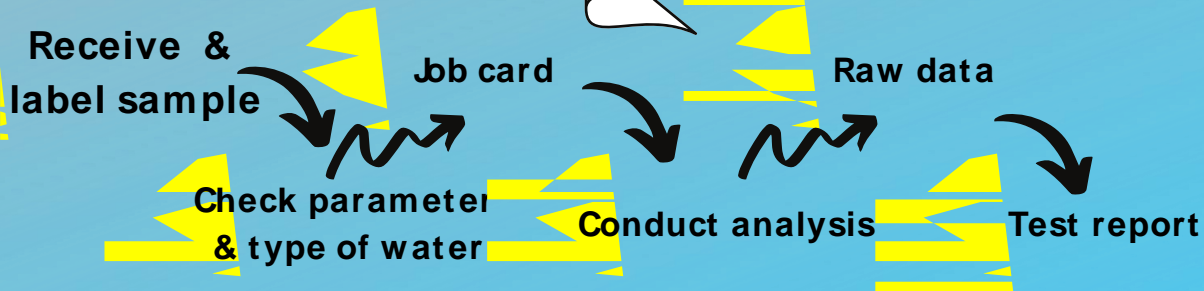
Faculty Supervisor:
Dr. Mohd Akmali Mokhter

Industrial Training Supervisor:
ChM Suzanna J Rice Oxley

Company background

Established in 2010, Rehpro Scientific Sdn Bhd which was formerly known as Haris Konsult became a private company in 2015 with the aim to provide consultancy and training services with quality and professional values in Occupational Safety, Health and Environment management system

Flow chart activities during industrial training



What I have learnt?

- Independence
- Multitasking
- Time Management
- Work under pressure
- Initiative
- Adaptability
- Communication Skills

Analysis conducted

- Ammoniacal nitrogen(AN)
- Biochemical oxygen demand(BOD)
- Chemical oxygen demand(COD)
- Total suspended solid(TSS)
- Total dissolved solid(TDS)
- Total solid(TS)
- Turbidity
- pH & Temperature

Instrumentation



ICP-MS



Dissolved oxygen meter

pH meter



Nephelometer/ Turbidity meter

Siti Salinah binti Mohd Yahya
3 SSCA
A17SC0235



UTM
UNIVERSITI TEKNOLOGI MALAYSIA



BACKGROUND:

Producer of fatty acid methyl ester, Pharmaceutical grade refined glycerine and other oleochemicals.

JOB SCOPE:

Assists chemists and lab technician in perform quality control test for raw material, in process and final products.

MINI PROJECT:

Reduce the concentration of Chemical Oxygen Demand (COD).

ZAKIAH BINTI JAMION
(A17SC0268/SSCA)

PRODUCT :



Vance Biodiesel



Fortrienol™



Vance Refined Glycerin

INSTRUMENT :



GC- FID



HPLC



GC- HEADSPACE



TERENGGANU

RESEARCH TRAINING DEPARTMENT OF CHEMISTRY TERENGGANU

provides analysis, investigations and scientific consultancy to government agencies

DIVISION

consist of three division at Kimia Terengganu:

- Forensic
- Environmental Health Division
- Administration

TESTING ROUTINE

- Organochlorine Pesticide
- Ammonia as Nitrogen
- Nitrate as Nitrogen
- Sulphate
- Biochemical Oxygen Demand (3 Days and 5 Days)
- Metals
- Chemical Oxygen Demand
- Phenol
- Ammoniacal Nitrate
- Total Solid Suspended
- Fluoride



Test BOD 3 days
Test BOD 3 days



Solid Phase Extraction of
Determination Organochlorine
Pesticide



Dissolve Oxygen
Meter



ICP - MS



AAS



GC-micro ECD

INSTRUMENT

- Discrete Analyzer
- Gas Chromatography- micro Electron Capture Detector
- Induce Couple Plasma- mass spectrometry
- UV-Vis Spectroscopy
- Atomic Absorption Spectroscopy
- Ion Chromatography
- Dissolved Oxygen Meter

QUALITY CONTROL CHARTING

For Determination of Organochlorine Pesticide

- to determine defect are occurring and whether it is satisfactory or warning
- determine defect are occurring randomly or systematically
- show whether the product or proces deviates from one or from more than one desired result

Division : Environmental Health Division
Laboratory : Chemist Office

QUALITY CONTROL DATA SHEET

Test ID	Method	Method	QC Frequency
Method Code	21.008	Upper control limit (UCL)	0.10
Std Dev	0.008	Lower warning limit (LWL)	0.07
Std Dev	0.008	Lower warning limit (LWL)	0.07
Max of Data	0.0	Upper control limit (UCL)	0.09

DATE	DATA	UCL	LWL	STATUS	Comments
11/11/2022	0.008	0.10	0.07	OK	
12/11/2022	0.008	0.10	0.07	OK	
13/11/2022	0.008	0.10	0.07	OK	
14/11/2022	0.008	0.10	0.07	OK	
15/11/2022	0.008	0.10	0.07	OK	
16/11/2022	0.008	0.10	0.07	OK	
17/11/2022	0.008	0.10	0.07	OK	
18/11/2022	0.008	0.10	0.07	OK	

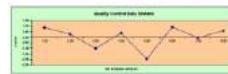


Figure 3 Quality Control Chart of Residue



KELANTAN

PUBLIC HEALTH LABORATORY

Kota Bharu, Kelantan.



The Public Health Laboratory is an organization under the Disease Control Division, Department of Public Health, Ministry of Health Malaysia which has been established to provide support services to epidemic investigations and surveillance activities.

PERSONAL INFORMATION

Name: Nur Ain Nadhrah Binti Mohamad
No. matric: A17SC0130
Course: Bachelor of science (Pure Chemistry)
Industrial supervisor: Mrs. Aliyaisma binti Ariffin
Faculty supervisor: Mr. Anthony Nyangson Steven @ Mohd Daniel

LABORATORIES INVOLVED

- Biochemistry Laboratory
- Immunology Laboratory
- Bacteriology Laboratory
- TB and Kusta Laboratory
- Molecular Laboratory
- Food Laboratory

JOB SCOPE

- Provide laboratory services to assist in the investigations and control during an outbreak of disease.
- Provide laboratory services for surveillance and monitoring of all Public Health-related diseases.
- Provide laboratory services for the food surveillance activities and enforcement of the Food Safety Act.
- Provide training and human resource development in the field of Epidemiology, Food Quality Control and Disease Control on health care.
- Assist in research activities under the Public Health Programme by providing laboratory diagnosis

INSTRUMENTS



ACTIVITIES

- Attending courses



- As-Syura Day



EXPERIENCES

- Time management
- Adaptability
- Teamwork
- Communication skills
- Work ethics
- Laboratory skills
- Discipline

CONTACT

Address Industrial: LOT 522, KM 10, Jalan Kuala Krai, 16010 Kota Bharu, Kelantan
 Phone: 09-7138000
 Fax: 09-7127115
 My no. : 016-9868794
 My Email: ainnadrahmohamad@gmail.com



SABAH

Internship Training Infographic

RAIDAH BINTI RICKY@MARZUKI (A17SC0210)
3SSCA
PERIOD: 20TH JULY TO 8TH OCTOBER 2020

COMPANY BACKGROUND

Yanmar Kota Kinabalu R&D Centre Sdn. Bhd.

A Company that is specialized in production of eco-friendly machineries that use bio-fuels from bio-mass

SUMMARY TABLE

	01	02	03	04	05	06	07	08	09	10	11	12
Activity (No)												
Water content												
Density												
High calorific value												
Flash point												
Acid number												
Acid number												
Micro Carbon Residue Tester												
Density Meter												
Bomb calorimeter												
Flash point and Pour point												
High calorific value and Flash point												

ACHIEVEMENT



DAILY ROUTINE



Daily lab check on temperature and humidity in test lab 1 and 2



Glassware cleaning and lab cleaning including sweeping and wiping benches

SUPERVISORS (SV)

Industrial Supervisor:
Miss Sherona Anne Simon
Chemist at Yanmar Kota Kinabalu R&D Centre

Faculty Supervisor :
Dr. Mohd Afiq b. Mohd Huri
Senior lecturer, Department of Chemistry, UTM JB

LABORATORY ANALYSIS

WATER CONTENT ANALYSIS (ASTM D6204)



Karl Fischer Coulometer (Metrohm)

Significance

- To prevent corrosion in engine system
- By knowing the amount of water in oil, manufacturer can create a suitable engine system which can withstand the problem.
- Manufacturer can reduce the production of oil which has high water content by manipulating the blends in oil.

DENSITY ANALYSIS (ASTM D4052)

Significance

- To calculate the volume or mass of the fluid
- To help manufacturer to produce oils and fuels or lubricants with lower density but still in acceptable limit that can reduce the engine problem.
- To identify the purity of fuels.



Density Meter (Anton Paar)

HIGH CALORIFIC VALUE ANALYSIS (ASTM D240)

Significance

- For fuels to be efficient, it must have high energy content since the function of fuels in transportation is to supply energy to engine
- To determine energy content in fuels.
- Manufacturer can create fuel with high energy content and blends it with suitable alternative fuel
- To help manufacturer to predict the capability of fuel in transportation and how much energy the fuel can give to the transport.



Bomb Calorimeter (IKA)

ACID NUMBER ANALYSIS (ASTM D664)

Significance

- Determination of acid number is important because acids in oils can contribute to corrosion of materials.
- To help manufacturer to develop an engine that suitable for oil with high acid number
- To determine the quality of oils



Automated Potentiometer (Metrohm)

LABORATORY ANALYSIS



Automated Potentiometer (Metrohm)

MICRO CARBON RESIDUE ANALYSIS (ASTM D4530)

Significance

- Manufacturer can use the information to predict the amount of deposits produced by fuels.
- To create a machine with conducive surrounding to lower the possible deposits of fluid.
- To prevent clogged engine and allow efficient flow of fuels in engine system



Micro Carbon Residue Tester (Stanhope-SETA)

KINEMATIC VISCOSITY ANALYSIS (ASTM D445)

Significance

- To enable fuel to flow efficiently
- To reduce problem of incomplete combustion and deposition of fuel in engine
- Manufacturer can invent fuels that have optimum viscosity through blending of fluids with other substance.
- Manufacturer can enhance the function of fuel pump according to viscosity of fuel



FTIR (Perkin Elmer Spectrum100)

CLOUD POINT AND POUR POINT ANALYSIS (ASTM D6371)

Significance

- Manufacturer can predict the temperature at which fuel will start to freeze in cold temperature and manipulate the fuels so that it can withstand cold temperature.
- Manufacturer can invent a machine that has its own heating system or a fuel that will not freeze at common temperature.
- Manufacturer can predict which temperature will be the optimum condition to store the fuel.



ICP-OES (Perkin Elmer Spectrum100)

BASE NUMBER ANALYSIS (ASTM D4739)

Significance

- To determine how much life time is remaining for oil to be in good condition
- Manufacturer can develop an engine that suitable for oil with low base number
- Can help to identify the quality of oils
- To identify the remaining of useful oils



Micro Carbon Residue Tester (Stanhope-SETA)

FLASH POINT ANALYSIS (ASTM D93)

Significance

- To produce safer fuels
- To decrease the fire risk in development process or fire risk to the machine
- To establish the presence of some liquids to know their flash point during investigation process



Viscosity Bath (Stanhope-SETA)

BIODIESEL BLENDING ANALYSIS (ASTM D7371)

Significance

- To gives more impactful fuel which has both eco-friendly and high energy fuel.
- To enable manufacturer to produce more high commercial potential fuel which complement the lack of existing fuel and more safe choice for consumer.



Cloud Filter Plugging Point (Stanhope-SETA)

TRACE METAL OF MULTI-ELEMENT ANALYSIS (ASTM6371)

Significance

- To help manufacturer to produce environmentally friendly fuel that does not contain harmful material such as heavy metals.
- To help manufacturer to reduce the effect of corrosion to engine system since oils may contain trace metal that easily oxidized such as iron
- To identify trace metals exist in fuels.



INDONESIA



DEPT. PRODUCTION-
DIV. COPPER PLATING
-
AMELIA KARENINA YUSUF
A17SC0282
SSCC

IN- TERN -SHIP.



Jl. Hang Kesturi,
Simpang Taiwan,
Kawasan Industri
Kabil, Batam,
Indonesia



20 Jul
-
09 Oct
2020

about

PT Appipa Indonesia, founded in 2006 is an experienced distributor for domestic and imported oil country tubular goods (OCTG). Main business is to trade OCTG and Connector Welding Goods to Support Oil and Gas Industries. PT Appipa Indonesia certified by API Spec 5CT, API Spec Q1, ISO 9001:2008 and OSHAS 18001:2007.

PT Appipa Indonesia manufacturing various types of grade and connection of pipes and accessories under licensing agreement including JFE, API, OMS, TMK and Metal One.

supervisors

Faculty:
Dr. Sheela Chandren

Industry:
Indra Jaya

activity



training scope

- Assisting in production process
- Documentation for raw material
- Documentation for returned material
- Assisting in plating result validation
- Assisting in solution validation
- Calibrating Karl Fischer tool
- Daily report writing



lesson learned

- Adaptability
- Communication skill
- Team work
- Time management



projects

- 9-5/8" 47# 22Cr-110 SL APEX CCELV
- 10-3/4" 40.2# 22Cr-80 (S31803) SL APEX CCELV
- 5" 18# S13Cr-110 SLHT TIMED
- 7" 26# 22Cr-110 SL-APEX CCELV
- 3-1/2" 9.2# L80-13Cr SL-XD
- 8-5/8"

The End



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OF EDUCATION
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