Fezile Dabi
District Municipality

Fezile Dabi District Municipality
John Vorster Road
P.O Box 10
Sasolburg, 1947

Tel: +27 [16] 970 8600
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Aiming above the horizon

Enquiries: Mr. Chakane Sibaya (Air Quality Officer)
Tel: 016 970 8835 **Fax:** 016 9731582 **Email:**chakanes@nfsdc.co.za

Atmospheric Emissions Licence Holder: Sasol South Africa Limited in respect of its Sasolburg Operations, Midland Chemicals

Atmospheric Emissions licence Reference Number: FDDM-MET-2013-24-R1

ATMOSPHERIC EMISSIONS LICENCE ISSUED IN TERMS OF SECTION 43 OF THE NATIONAL ENVIRONMENTAL MANAGEMENT: AIR QUALITY ACT, 2004, (ACT NO. 39 OF 2004)

This Atmospheric Emissions Licence issued to **Sasol South Africa Limited in respect of its Sasolburg operations, Midland Chemicals,** in terms of section 41(1)(a) (as read with Section 47) of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) ("the Act"), in respect of Listed Activity Numbers 2.1, 6.1, 7.1, 7.2, 7.7 and 8.1. The Atmospheric Emissions Licence has been issued on the basis of information provided in the company's renewal application and information that became available during processing of the application.

The Atmospheric Emissions Licence is valid until 31 March 2024.

The Atmospheric Emissions Licence is issued subject to the conditions and requirements set out below which form part of the Atmospheric Emissions Licence and which are binding on the holder of the Atmospheric Emissions Licence, Sasol South Africa Limited in respect of its Sasolburg Operations' Midland Chemical facilities, hereinafter referred to as the ("the licence holder").

1. ATMOSPHERIC EMISSIONS LICENCE ADMINISTRATION

Name of the Licensing Authority	Fezile Dabi District Municipality
Atmospheric Emissions Licence Number	FDDM-MET-2013-24-R1
Atmospheric Emissions Licence Issue Date	Date of Signature by Air Quality Officer
Atmospheric Emissions Licence Type	Final
Review Date, not later than	31 March 2024

2. ATMOSPHERIC EMISSIONS LICENCE HOLDER DETAILS

Enterprise Name	Sasol South Africa Limited through its Sasolburg Operations' Midland Chemicals plants
Trading as	N/A
Enterprise Registration Number (Registration Numbers if Joint Venture)	1968/0139141/06
Registered Address	50 Katherine Street Sandton
Postal Address	PO Box 1 Sasolburg 1947
Telephone Number (General)	016 960 1111
Industry Sector	Petrochemical Company
Name of Responsible Officer	Rightwell Laxa
Name of Emission Control Officer	Ristoff van Zyl
Telephone Number	016 920 4913
Cell Phone Number	083 632 5975
Fax Number	011 219 2438
Email Address	ristoff.vanzyl@sasol.com
After Hours Contact Details	083 632 5975
Land Use Zoning as per Town Planning Scheme	Industrial

3. SITUATION AND EXTENT OF PLANT

3.1 LOCATION AND EXTENT OF PLANT

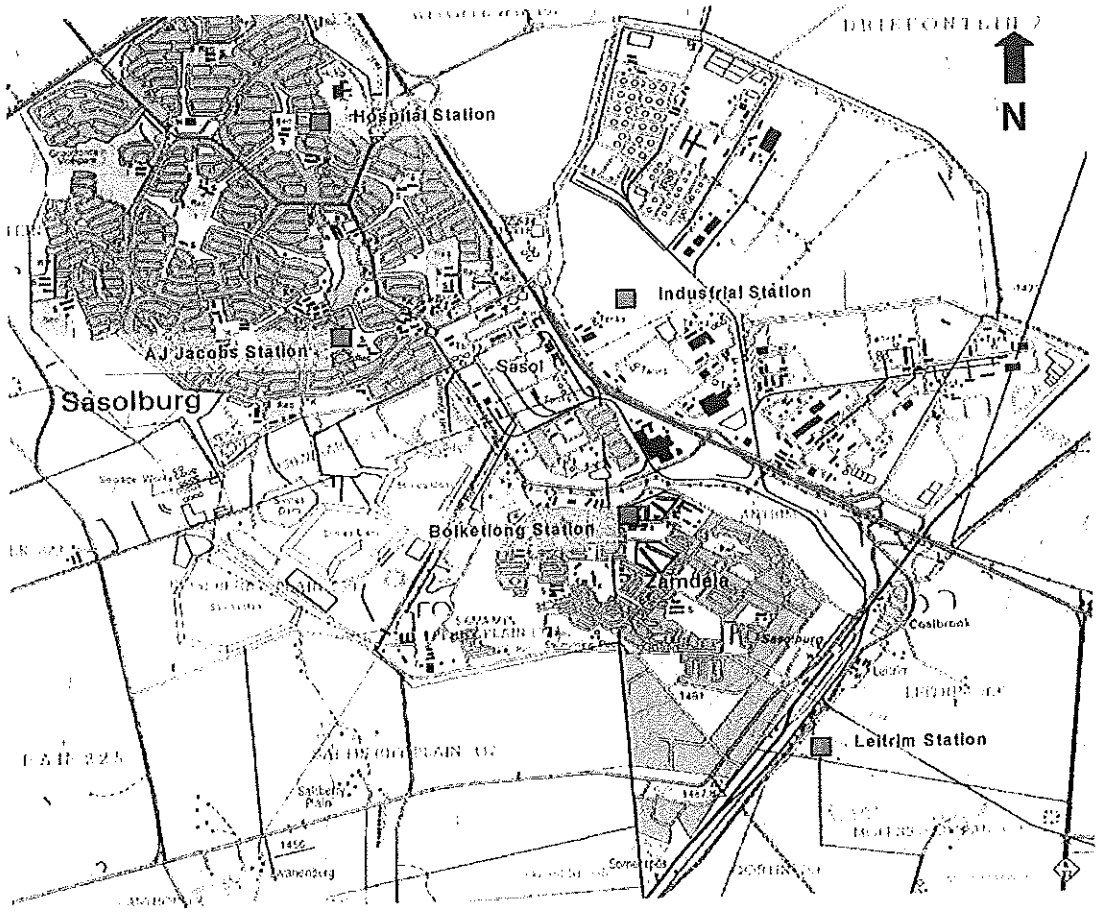
Physical Address of the Premises	Sasol Midlands site Bergius street Sasolburg 1947
Description of Site (Erf)	Subdivision 6 of 2 of Driefontein No- 2 and certain subdivisions of the farm Saltberry Plain, Roseberry Plain Flerewarde and Antrim and subdivision 5 of 4 of Montrose, District of Sasolburg, Free State.
Coordinates of Approximate Centre of Operations	Midlands Latitude: S 26.82642 Longitude: E 27.87342

Extent	15.51 km²
Elevation Above Mean Sea Level (m)	1 498 m
Province	Free State
District Municipality	Fezile Dabi
Local Municipality	Metsimaholo
Designated Priority Area	Vaal Triangle Priority Area

3.2 Description of Surrounding Land Use within 5 km radius

Within a 5 km radius from the Sasol One facility is the town of Sasolburg, a residential area as well as an informal settlement called Zamdela. Other land use includes heavy as well as light industries. Sasol's water treatment facility and waste areas also falls within this 5 km radius.

Within 5 km from the Sasol Midland site is mainly heavy industrial area as well as some farm land and game reserves operated and maintained by Sasol. Zamdela also falls within the specified radius from the Midland site.



4. GENERAL CONDITIONS

4.1. Process and ownership changes

The holder of the atmospheric emissions licence must ensure that all unit processes and apparatus used for the purpose of undertaking the listed activity in question, and all appliances and mitigation measures for preventing or reducing atmospheric emissions, are at all times properly maintained and operated.

Building, plant or site works related to the listed activity or activities used by the licence holder shall be extended, altered or added subject to the applicable requirements for an environmental authorisation from the competent authority as per the provisions of the National Environmental Management Act 1998 (Act No. 107 of 1998) (NEMA), as amended read with the Environmental Impact Assessment Regulations thereunder. The investigation, assessment and communication of potential impact of such an activity must follow the required assessment procedure as prescribed in the Environmental Impact Assessment Regulations published in terms of section 24(5) of the National Environmental Management Act.

Any changes in processes or production increases which may have an impact on atmospheric emissions, by the licence holder, will require prior approval by the licensing authority.

Any changes to the type and quantities of input materials and products, or to production equipment and treatment facilities which may have an impact on atmospheric emissions will require prior written approval by the licensing authority.

The licence holder must, in writing, inform the licensing authority of any change of ownership of the enterprise. The licensing authority must be informed within 30 (thirty) days after the change of ownership.

The licence holder must immediately on cessation or decommissioning of the listed activity inform, in writing, inform the licensing authority.

4.2. General duty of care

The holder of the licence must, when undertaking the listed activity, adhere to the duty of care obligations as set out in section 28 of the NEMA.

The licence holder must undertake the necessary measures to minimize or contain the atmospheric emissions. The measures are set out in section 28(3) of the NEMA.

Failure to comply with the above condition is a breach of the duty of care, and the licence holder will be subject to the sanctions set out in section 28 of the NEMA.

4.3. Sampling and/or analysis requirements

Measurement, calculation and/or sampling and analysis shall be carried out in accordance with any nationally or internationally acceptable standard. A different method may be acceptable to the licensing authority as long as it has been consulted and agreed to the satisfactory documentation necessary in confirming the equivalent test reliability, quality and equivalence of analyses.

The licence holder is responsible for quality assurance of methods and performance. Where the holder of the licence uses external laboratories for sampling or analysis, accredited laboratories shall be used.

4.4. General requirements for licence holder

The licence holder is responsible for ensuring compliance with the conditions of this licence by any person acting on his, her or its behalf, including but not limited to, an employee, agent, sub-contractor or person rendering a service to the holder of the licence.

The licence does not relieve the licence holder to comply with any other statutory requirements that may be applicable to the carrying on of the listed activity.

A copy of the licence must be kept at the premises where the listed activity is undertaken. The licence must be made available to the environmental management inspector representing the licensing authority who requests to see it.

The licence holder must inform, in writing, the licensing authority of any change to its details including the name of the emissions control officer, postal address and/or telephonic details.

4.5. Statutory obligations

The licence holder must comply with the obligations as set out in Chapter 5 of the Act.

4.6. Annual payment of atmospheric emissions licence processing fee

The licence holder must, for the period of validity of the licence, pay the processing fee annually to the licensing authority. Alternatively the licence holder can pay the emissions licence processing fee once off.

4.7 Variation of Atmospheric Emissions Licence

The Air Quality Officer reserves the right to by notice, in writing, set and adjust the emissions limit value or standards after consultation with the holder.

4.8 Non- Compliance with Conditions

If the holder fails to comply with the conditions or requirements of this Atmospheric Emissions License, the Air Quality Officer may by notice in writing call upon such a holder to comply with such conditions or requirement within a reasonable period specified in the notice, and in the event of failure on the part of such holder to comply with the said conditions or requirement within the period so specified, the Air Quality Officer may cancel the Atmospheric Emissions License or suspend the operation thereof for such period as he or she may deem fit.

5. NATURE OF PROCESS

5.1. PROCESS DESCRIPTION

Polyethylene

Midlands Chemicals operates two polyethylene plants on the Sasol Midland Site, namely the Poly 2 and Poly 3 plants.

Poly 2:

The Poly 2 process involves the manufacture of linear low density polyethylene in a fluidized bed gas phase reactor. [redacted] The polymer together with some unreacted gas is transferred out of the reactor to the degassing bin where hydrocarbons are separated from the polymer. The liquid hydrocarbons is recovered in the monomer recovery section of the plant and recycled back to the reactor. The polymer is pneumatically transferred from the degassing bin and is stored in intermediate storage silos. At the extruder, virgin polymer from storage is mixed with additives, melted and thereafter cut it into pellets in an underwater cutter. This polymer pellets are thereafter dried and cooled before being pneumatically conveyed to the Pack Silos from which it is bagged at the packline and stored in the warehouse. Emergency venting occurs through the plant flare system where hydrocarbons are converted to CO_2, CO and H_2O.

Poly 3:

The Poly 3 plant produces low density polyethylene. Ethylene and propylene is fed to a tubular reactor where initiator is added and the polymerization reaction takes place. The polymer-gas mixture exiting the reactor is separated and the unreacted gas is recycled back to the reactor. The polymer is then fed into an extruder with additives and cut it into pellets in an underwater cutter. The polymer pellets are then dried and transferred to blending silos where the dissolved ethylene is purged out with air and the product is blended to be homogeneous. After degassing the product is pneumatically conveyed to the Pack Silos from which it is bagged at the packline and stored in the warehouse. Emergency venting occurs through the plant flare system where ethylene is converted to CO_2, CO and H_2O.

Chlorine and HCl Burners

Midland Chemicals operate a chlorine, hydrochloric acid, sodium hydroxide and calcium chloride production facilities on the Sasol Midland Site. Salt is conveyed to a dissolving tank where the salt is dissolved up to a specific brine concentration. After several purification steps, the brine solution is fed to the chloro-caustic electrolysers where chlorine, hydrogen and aqueous sodium hydroxide is manufactured. The chlorine manufactured is stored, exported via pipeline to the VCM plant and sold externally as liquid chlorine. The chlorine is also reacted with hydrogen to create hydrochloric acid in the HCl burners. The hydrogen is either used at the HCl burners to manufacture HCl or sent to the VCM plant as a fuel gas. The hydrochloric acid produced in the HCl burners is stored and sold as a final product. Scrubbers designed to control emissions in these processes might contain traces of HCl and Cl_2.

Vinyl Chloride Monomer

Midland Chemicals operate a Vinyl Chloride Monomer (VCM) production facility on the Sasol Midland Site. The facility uses two different reactions for the manufacturing of the intermediate 1,2-dichloroethane (EDC). The first is the direct chlorination of ethylene to produce EDC. The second is the oxychlorination step where ethylene, oxygen, hydrogen and HCl react to produce crude EDC and water. The water is separated after the oxychlorination reactor and the crude EDC is sent to the EDC purification unit. The water stream is fed to the water recovery unit for purification before being exported to the Chlorine Plant as brine make up. EDC from the purification step is fed to the EDC cracker together with EDC from the direct chlorination step. In the EDC cracking unit EDC is cracked to VCM and HCl after which the cracked stream is fed to the VCM purification unit.

Here the VCM and HCl are separated and HCl is recycled as feed to the oxychlorination unit. The VCM is sent to storage in two spheres at the PVC Plant. By products from the EDC Purification Unit and plant vent gasses are incinerated and the recovered dilute hydrochloric acid is exported to the Chlorine plant.

Polyvinyl Chloride

Midland Chemicals operate a Polyvinyl chloride plant on the Sasol Midland Site. VCM from the VCM plant is suspended in water whilst the reaction is brought up to the desired temperature. The polymerization reaction takes place and the polyvinyl chloride (PVC) is formed. The reactor is discharged into a blow down vessel which feeds into the stripper, where unreacted VCM is recovered from the slurry and recycled. The PVC/water mixture is then fed to the slurry stock tank and then to the centrifuge where the PVC is separated. Once the PVC is separated, it is dried, screened and pneumatically fed to the storage area for packaging. The unreacted VCM is recovered by liquefaction and stored for reuse. The uncompressible tail gas from the latter unit is fed to the incinerator at the VCM Plant as plant availability allows.

Cyanide

Methane (CH_4) rich natural gas reacts with ammonia (NH_3) in fluidized coke bed reactors to form a hydrogen cyanide (HCN) rich synthesis gas. The synthesis gas exiting the reactor is cooled and filtered to remove carbon soot before being fed to a pair of sodium hydroxide (NaOH) absorbers installed in series. Here the HCN reacts with the NaOH to form sodium cyanide (NaCN), which is the final product. The exhaust gases from the second NaOH absorber contain mainly hydrogen and nitrogen and are emitted to atmosphere via an elevated stack. The vented stream is measured for traces of HCN. During periods of low NaCN stock and high demand, solid NaCN is dissolved with water and transferred to storage as well.

AAA/Butanol

Midland Chemicals operates an Acrylic Acid and Acrylate (AAA) as well as a Butanol plant on the Sasol Midland Site.

Butanol plant: Synthesis gas is fed to a cold box separation phase where impurities are removed from the syngas. The impurities are recycled back into the gas loop and vented into an elevated flare. The purified syngas as well as propylene are fed into a series of reactive distillation units to produce n-butanol and i-butanol as the final product. All columns are vented to the flare.

AAA plant: Acrylic acid is manufactured by reacting propylene with air through a series of reactors and a distillation / purification process. The crude Acrylic Acid is fed to three processes. It can be purified to form Glacial Arylic Acid, it can be reacted with n-Butanol to produce Butyl Acrylate or it can be reacted with Ethanol to produce Ethyl Acrylate. All vents from the AAA plant goes through high temperature incinerator to eliminate any Acrylates entering the atmosphere, especially due to the odorous nature of Ethyl Acrylate.. Off gasses from the catalytic destruction unit and the vapour combustion unit contains CO_2, CO, NO and NO_2.

5.2. LISTED ACTIVITY

Listed Activities, as published in terms of Section 21 of the AQA, authorised to be conducted at the premises by the licence holder:

Listed Activity Number	Category of Listed Activity	Sub-category of the Listed Activity	Listed Activity Name	Description of the Listed Activity
1	2	2.1	Petroleum industry, the production of gaseous and liquid fuels as well	Combustion installations not used primarily for steam

			as petrochemicals from crude oil, coal, gas or biomass	raising or electricity generation (furnaces and heaters)
2	6	6.1	Organic Chemical Industry	The production, or use in production of organic chemicals not specified elsewhere including acetylene, ecetic, maleic or phthalic anhydride or thei acids, carbon disulphide, pyridine, formaldehyde, acetaldehyde, acrolein and its derivatives, acrylonitrile, amines and synthetic rubber. The production of organometallic compounds, organic dyes and pigments, surface-active agents. The polymerisation or co-polymerisation of any unsaturated hydrocarbons, substituted hydrocarbon (including Vinyl chloride). The manufacture, recovery or purification of acrylic acid or any ester of acrylic acid. The use of toluene di-isocyanate or other di-isocyanate of comparable volatility; or recovery of pyridine. All permanent immobile liquid storage facilities at a single site with a combined storage capacity of greater than 1 000 m^3

3	7	7.1	Inorganic Chemical Industry	Production and or use in manufacturing of ammonia, fluorine, fluorine compounds, hydrogen cyanide and chlorine gas
4	7	7.2	Inorganic Chemical Industry	Production, bulk handling and or use in manufacturing of hydrofluoric, hydrochloric, nitric and sulphuric acid (including oleum) in concentration exceeding 10% Processes in which oxides of sulphur are emitted through the production of acid sulphites of alkalis or alkaine earths or through the production of liquid sulphur or sulphurous acid Secondary production of hydrochloric acid through regeneration
5	7	7.7	Inorganic chemicals industry	Production of caustic soda
6	8	8.1	Thermal treatment of general and hazardous waste	Facilities where general and hazardous waste are treated by the application of heat

5.3. UNIT PROCESS OR PROCESSES

List of all unit processes associated with the listed activities to be undertaken at the site of work.

Unit Process	Function of Unit Process	Batch or Continuous Process
Poly 2		
Purification	Purification of feed streams to remove trace poisons before use in the Catalyst and LLDPE manufacturing processes	Continuous
Catalyst Manufacturing	Manufacture of Ziegler Natta, silica based catalyst for the polyethylene manufacture process	Batch

Reaction	Produce polyethylene in the fluidized bed reactor	Continuous
Degassing and Monomer Recovery	Degassing of reactor polymer to remove hydrocarbons from the polymer and recovering the liquid hydrocarbons back to the reactor	Continuous
Flare	- Flaring of hydrocarbons not recovered at the monomer recovery unit - Flaring of reactor inventory during reactor shutdown / purging	Continuous When required
Blending and Extrusion	Intermediate storage and feed of reactor polymer to the extruder where the polymer is pelletised	Batch
Packaging and Storage	Bagging of polymer into 25kg bags and 1.25ton semi bulk bags and storage of polymer before being transported to customers	Batch
Poly 3		
Ethylene Compression	Compress Ethylene feed from the battery limit supply to the required reaction pressure	Continuous
Reaction	Produce Polyethylene in the tubular reactor	Continuous
Separators and Recycle Gas Systems	Separate the unconverted hydrocarbons and polymer from the exit of the reactor and recycle the unconverted raw material back to the reactor via the ethylene compressors	Continuous
Extrusion	Pelletise polymer	Continuous
Pellet degassing and blending	Remove residual hydrocarbons from polymer pellets and homogenise the polymer batches	Continuous
Flare system	Flaring ethylene or propylene during reactor shutdown / purging	When Required
Packaging and Storage	Bagging of polymer into 25kg bags and 1.25ton semi bulk bags and storage of polymer before being transported to customers	Batch
VCM and PVC		
Reactor	Direct Chlorination reactor – manufacture of 1,2-dichloroethane (EDC) from ethylene and chlorine.	Continuous
Cracker	EDC Cracker – cracking of EDC to form vinyl chloride monomer (VCM) and hydrogen chloride (HCl)	Continuous
Reactor	Oxychlorination reactor– manufacture of EDC by oxychlorination of ethylene	Continuous
Incinerator	. Incineration of liquid and gas byproducts from VCM and PVC plant.	Continuous
Scrubbers	By-product recovery unit: hydrochloric acid recovery from mixed gaseous and liquid plant streams from both the VCM and PVC Plants VCM Safety Scrubber – removal of HCl from gaseous vent streams during incinerator off-line time.	Continuous Batch
Tanks – spheres	PVC Plant Storage Spheres – storage of VCM	Continuous

Reactors	PVC autoclaves – manufacture of poly (vinyl chloride) (PVC) from VCM	Batch
Separation - recovery	PVC Plant Vinyl Chloride Recovery Unit – recovery of unreacted VCM from the manufacture of PVC	Continuous
Drying	PVC Plant Drying Unit – remove moisture from raw PVC polymer	Continuous
Separation - recovery	PVC Plant Multigrade Recovery Unit (sludge plant) – recovers PVC polymer from effluent water streams	Batch
Cyanide		
Mixing Station	Mixing of Ammonia and Natural gas in preparation to feed to the reactor	Continuous
Coke handling	Screening of coke particles into different sizes and feed into the reactors as required	When required
Reaction	Conversion of ammonia and natural gas to hydrogen cyanide	Continuous
Gas Cooling and Filtration	Cooling and cleaning of reactor exit gas in preparation for the downstream absorption process	Continuous
Absorption	Absorbing hydrogen cyanide gas into caustic to produce the sodium cyanide final product	Continuous
Storage	Storage of crude and final product	Batch
Stack and seal pot	Exhausting waste gas mainly hydrogen and nitrogen into atmosphere	Continuous
Dissolving	Dissolving of solid NaCN during periods of high demand	When required
Loading facility	Dispatch of final product to customers via road tankers	Batch
Chlorine		
Chlorine production	To produce chlorine , hydrogen, sodium hydroxide	Continuous
Calcium Chloride	Produce calcium chloride	Batch
Hydrochloric Acid	Hydrochloric acid	Continuous
Tank farm	Storage and dispatch of caustic soda, hydrochloric acid and sulphuric acid.	Continuous
AAA/Butanol		
Oxidation	Raw material to crude product	Continuous
Distillation	Purification of crude product	Continuous
Esterification	Reaction of crude product with specific alcohol	Continuous
Refrigeration unit - NH3	Cooling in process	Continuous
Cryogenic separation	Conditioning of synthesis gas	Continuous
Chemical Dosing	In-process requirement	Continuous
Flare system	Process gas	Continuous
Pit flare	Combustion liquid waste stream	Batch
Off gas incineration	Incineration of process and tank waste gas	Continuous

Catalytic combustion	VOC combustion	Continuous

Unit Process	Function of Unit Process	Batch or Continuous Process
Poly 2		
Purification	Purification of feed streams to remove trace poisons before use in the Catalyst and LLDPE manufacturing processes	Continuous
Catalyst Manufacturing	Manufacture of Ziegler Natta, silica based catalyst for the polyethylene manufacture process	Batch
Reaction	Produce polyethylene in the fluidized bed reactor	Continuous
Degassing and Monomer Recovery	Degassing of reactor polymer to remove hydrocarbons from the polymer and recovering the liquid hydrocarbons back to the reactor	Continuous
Flare	- Flaring of hydrocarbons not recovered at the monomer recovery unit - Flaring of reactor inventory during reactor shutdown / purging	Continuous When required
Blending and Extrusion	Intermediate storage and feed of reactor polymer to the extruder where the polymer is pelletised	Batch
Packaging and Storage	Bagging of polymer into 25kg bags and 1.25ton semi bulk bags and storage of polymer before being transported to customers	Batch
Poly 3		
Ethylene Compression	Compress Ethylene feed from the battery limit supply to the required reaction pressure	Continuous
Reaction	Produce Polyethylene in the tubular reactor	Continuous
Separators and Recycle Gas Systems	Separate the unconverted hydrocarbons and polymer from the exit of the reactor and recycle the unconverted raw material back to the reactor via the ethylene compressors	Continuous
Extrusion	Pelletise polymer	Continuous
Pellet degassing and blending	Remove residual hydrocarbons from polymer pellets and homogenise the polymer batches	Continuous
Flare system	Flaring ethylene or propylene during reactor shutdown / purging	When Required
Packaging and Storage	Bagging of polymer into 25kg bags and 1.25ton semi bulk bags and storage of polymer before being transported to customers	Batch
VCM and PVC		

Reactor	Direct Chlorination reactor – manufacture of 1,2-dichloroethane (EDC) from ethylene and chlorine.	Continuous
Cracker	EDC Cracker – cracking of EDC to form vinyl chloride monomer (VCM) and hydrogen chloride (HCl)	Continuous
Reactor	Oxychlorination reactor-- manufacture of EDC by oxychlorination of ethylene	Continuous
Incinerator	. Incineration of liquid and gas byproducts from VCM and PVC plant.	Continuous
Scrubbers	By-product recovery unit: hydrochloric acid recovery from mixed gaseous and liquid plant streams from both the VCM and PVC Plants VCM Safety Scrubber – removal of HCl from gaseous vent streams during incinerator off-line time.	Continuous Batch
Tanks – spheres	PVC Plant Storage Spheres – storage of VCM	Continuous
Reactors	PVC autoclaves – manufacture of poly (vinyl chloride) (PVC) from VCM	Batch
Separation - recovery	PVC Plant Vinyl Chloride Recovery Unit – recovery of unreacted VCM from the manufacture of PVC	Continuous
Drying	PVC Plant Drying Unit – remove moisture from raw PVC polymer	Continuous
Separation - recovery	PVC Plant Multigrade Recovery Unit (sludge plant) – recovers PVC polymer from effluent water streams	Batch
Cyanide		
Mixing Station	Mixing of Ammonia and Natural gas in preparation to feed to the reactor	Continuous
Coke handling	Screening of coke particles into different sizes and feed into the reactors as required	When required
Reaction	Conversion of ammonia and natural gas to hydrogen cyanide	Continuous
Gas Cooling and Filtration	Cooling and cleaning of reactor exit gas in preparation for the downstream absorption process	Continuous
Absorption	Absorbing hydrogen cyanide gas into caustic to produce the sodium cyanide final product	Continuous
Storage	Storage of crude and final product	Batch
Stack and seal pot	Exhausting waste gas mainly hydrogen and nitrogen into atmosphere	Continuous
Dissolving	Dissolving of solid NaCN during periods of high demand	When required
Loading facility	Dispatch of final product to customers via road tankers	Batch
Chlorine		
Chlorine production	To produce chlorine , hydrogen, sodium hydroxide	Continuous
Calcium Chloride	Produce calcium chloride	Batch
Hydrochloric Acid	Hydrochloric acid	Continuous

Tank farm	Storage and dispatch of caustic soda, hydrochloric acid and sulphuric acid.	Continuous
AAA/Butanol		
Oxidation	Raw material to crude product	Continuous
Distillation	Purification of crude product	Continuous
Esterification	Reaction of crude product with specific alcohol	Continuous
Refrigeration unit - NH3	Cooling in process	Continuous
Cryogenic separation	Conditioning of synthesis gas	Continuous
Chemical Dosing	In-process requirement	Continuous
Flare system	Process gas	Continuous
Pit flare	Combustion liquid waste stream	Batch
Off gas incineration	Incineration of process and tank waste gas	Continuous
Catalytic combustion	VOC combustion	Continuous

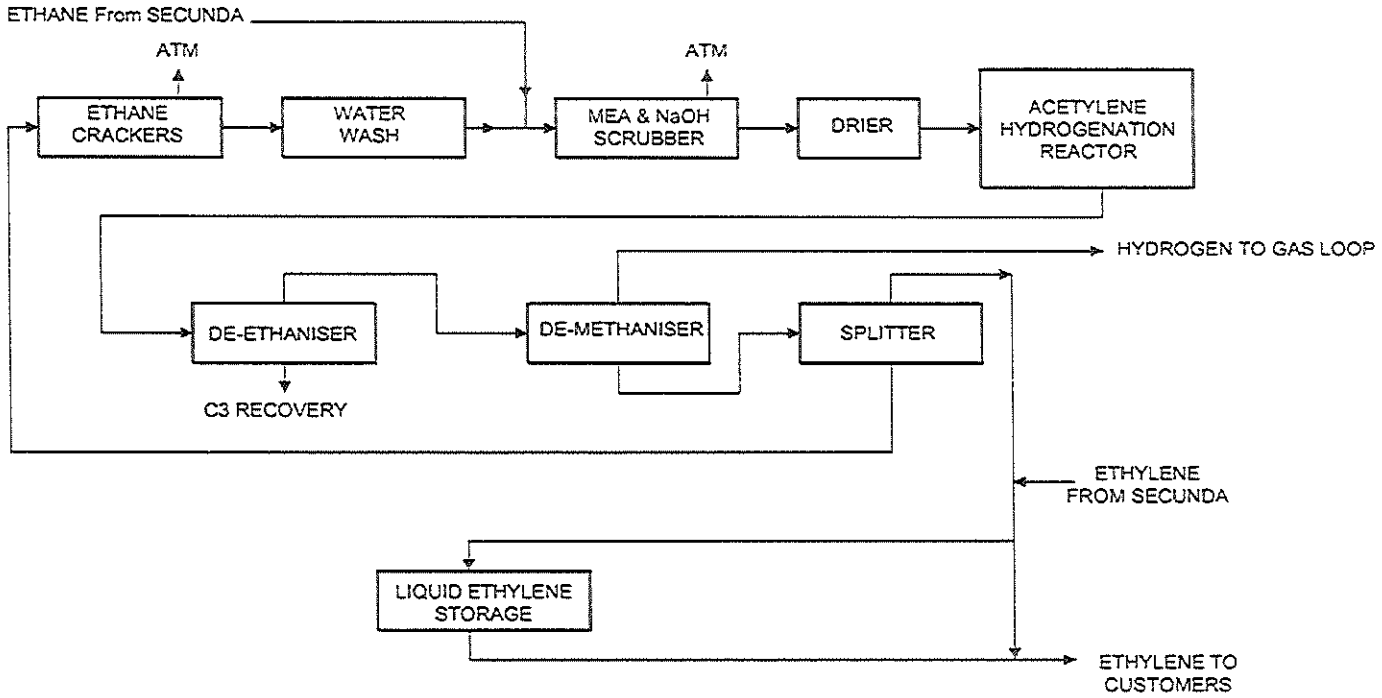
5.4. HOURS OF OPERATIONS

Unit Process / Plant	Operating Hours (e.g. 07h00 – 17h00)	No. Days Operation per Year
Poly 2 & Poly 3		
All the above operation units	24hrs	365
VCM and PVC		
Direct Chlorination Reactor	24 hours	365
EDC Cracker	24 hours	365
Oxychlorination Reactor	24 hours	365
EDC and VCM Purification - Distillation	24 hours	365
Scrubbers – Safety Scrubber and Byproduct recovery scrubbers	24 hours	365
Incinerator	24 hours	365
Tanks – VC spheres	24 hours	365
Reactors – PVC autoclaves	24 hours	365
Separation – VC Recovery	24 hours	365
Drying	24 hours	365
Separation – Sludge plant	24 hours	365
Cyanide		
All operation units	24 hours	365
Chlorine		

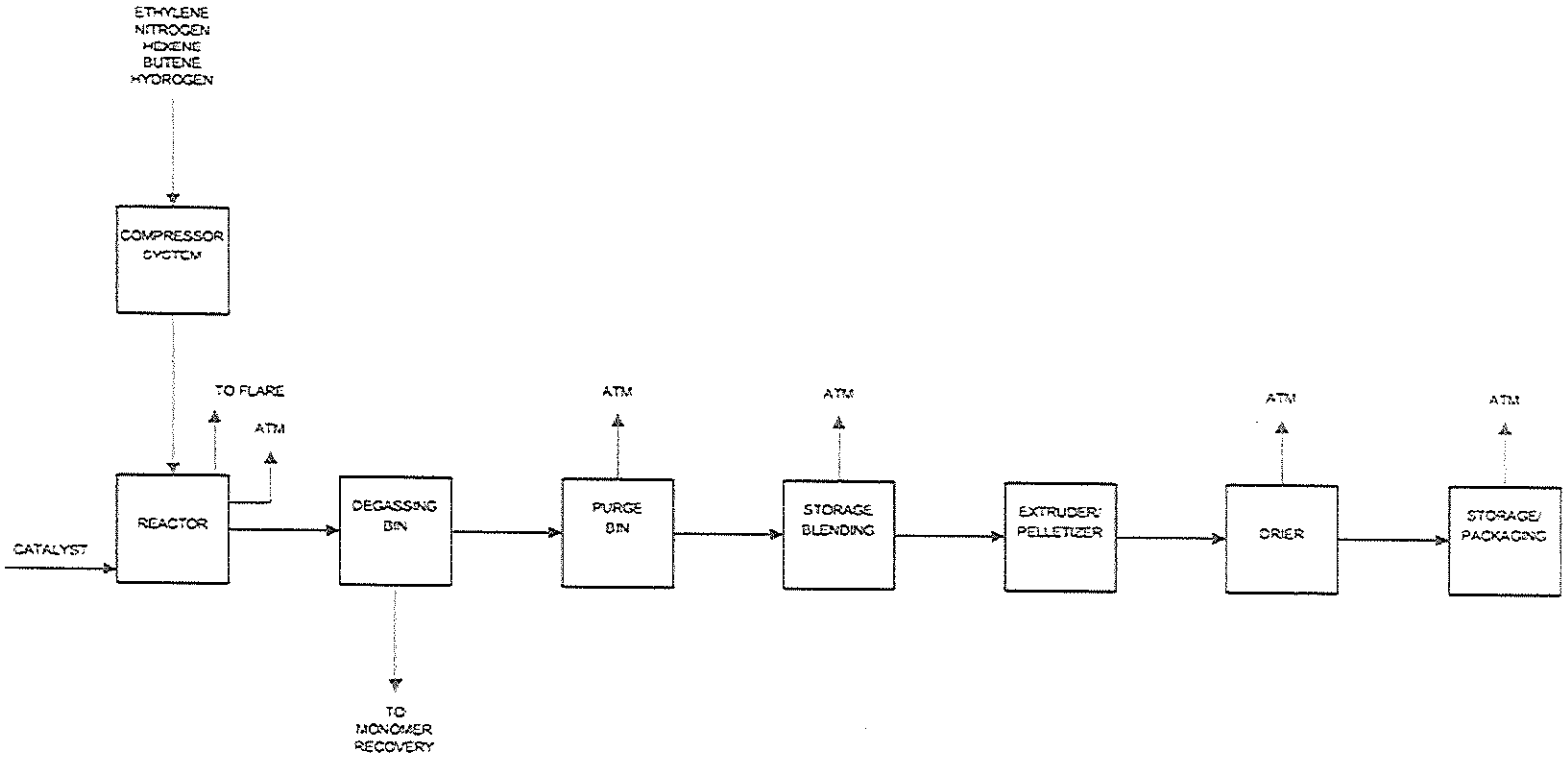
Chlorine cells	24 hours	365
Calcium Chloride	When required	365
AAA/Butanol		
Oxidation	24 hours	365
Distillation	24 hours	365
Esterification	24 hours	365
Refrigeration unit - NH3	24 hours	365
Cryogenic separation	24 hours	365
Chemical Dosing	24 hours	365
Flare system	24 hours	365
Pit flare	Ad Hoc	Ad hoc
Off gas incineration	24 hours	365
Catalytic combustion	24 hours	365
Off-loading facility	When required	365
Loading Facilities	When required	365
Final product tanks	When required	365

5.5. GRAPHICAL PROCESS INFORMATION

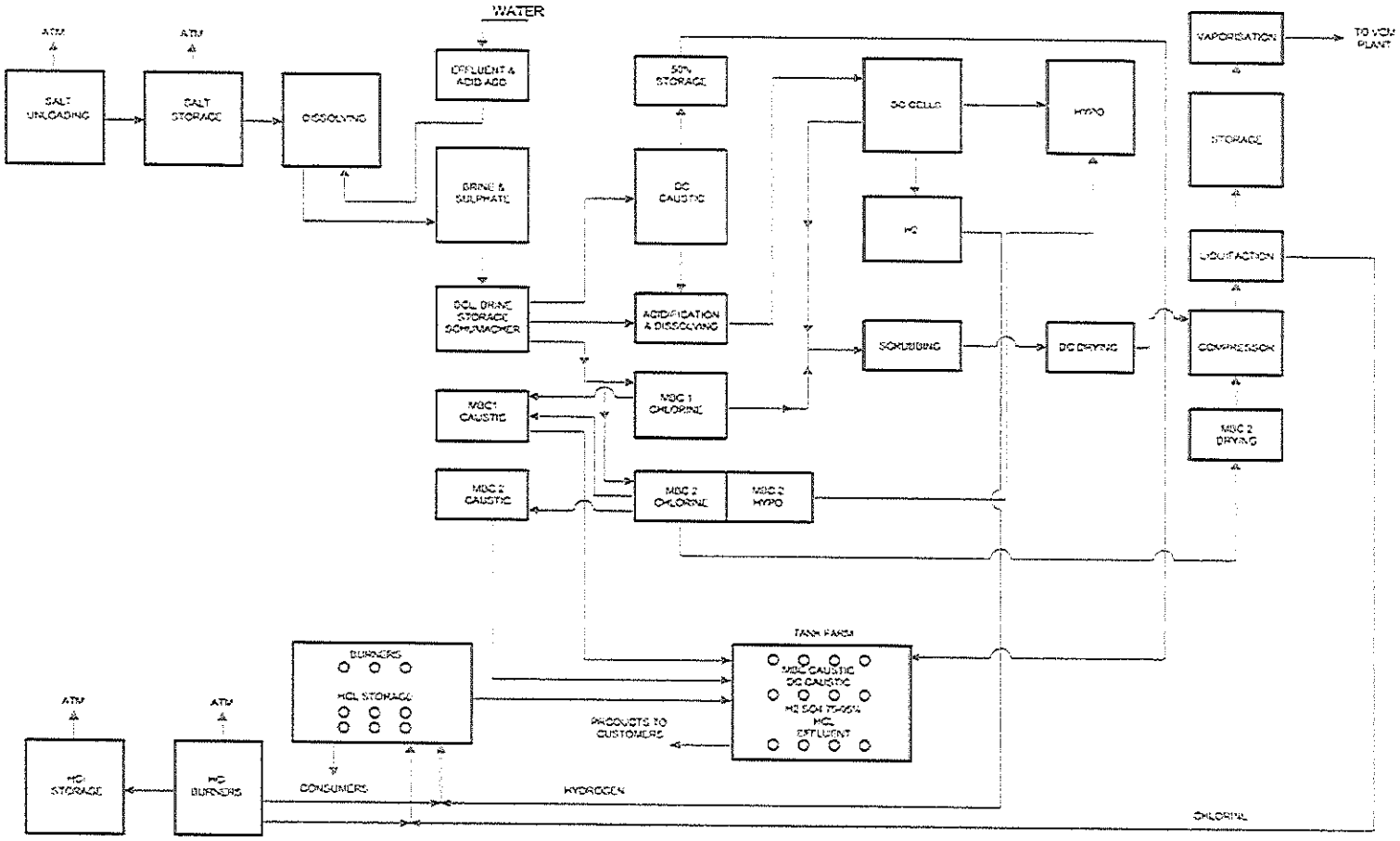
Monomers plant



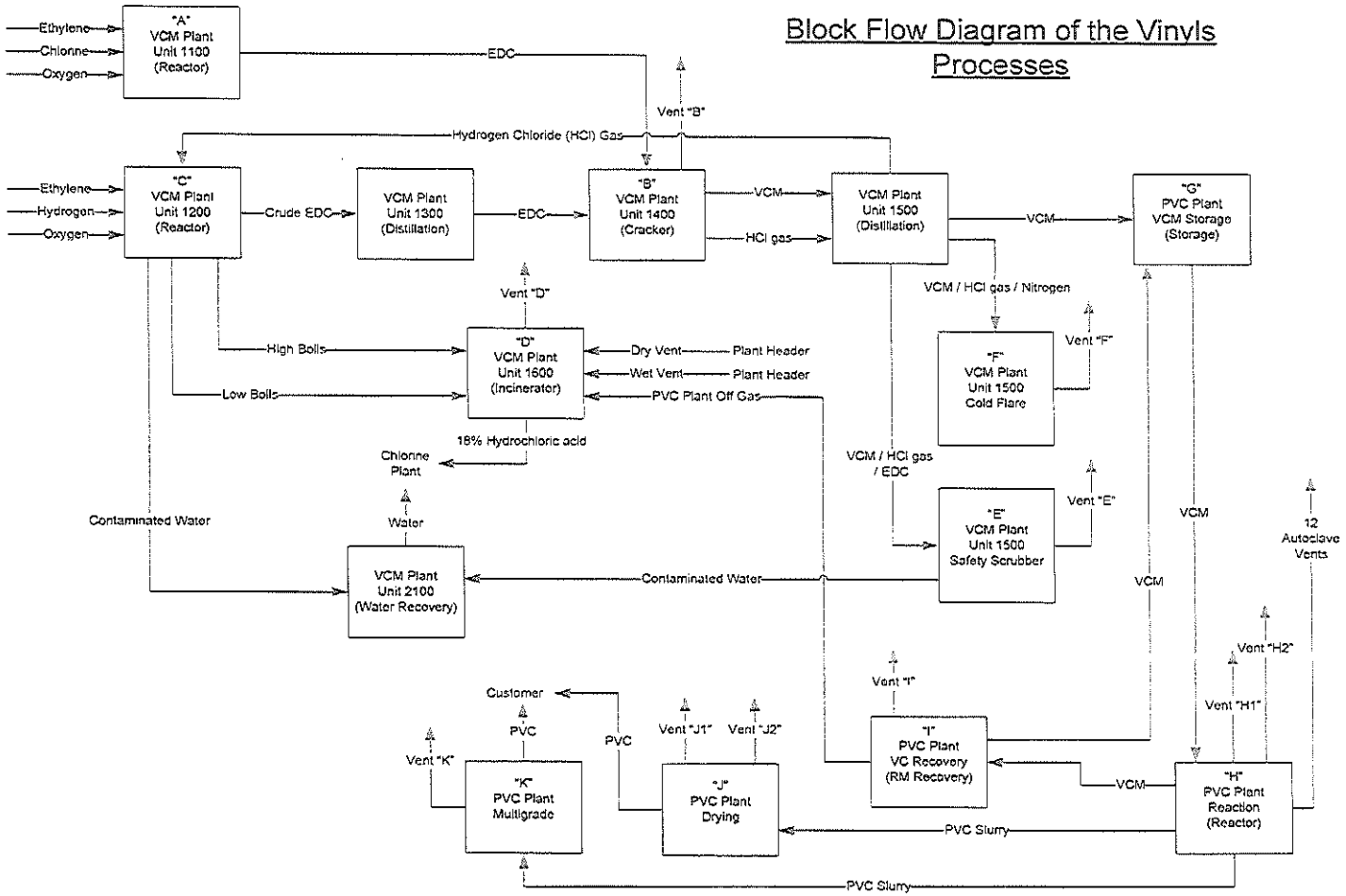
Poly 2 plant


ETHYLENE
NITROGEN
HEXENE
BUTENE
HYDROGEN
COMPRESSOR SYSTEM
TO FLARE
ATM
CATALYST
REACTOR
DEGASSING BIN
TO MONOMER RECOVERY
ATM
PURGE BIN
ATM
STORAGE BLENDING
EXTRUDER/ PELLETIZER
ATM
DRIER
ATM
STORAGE/ PACKAGING

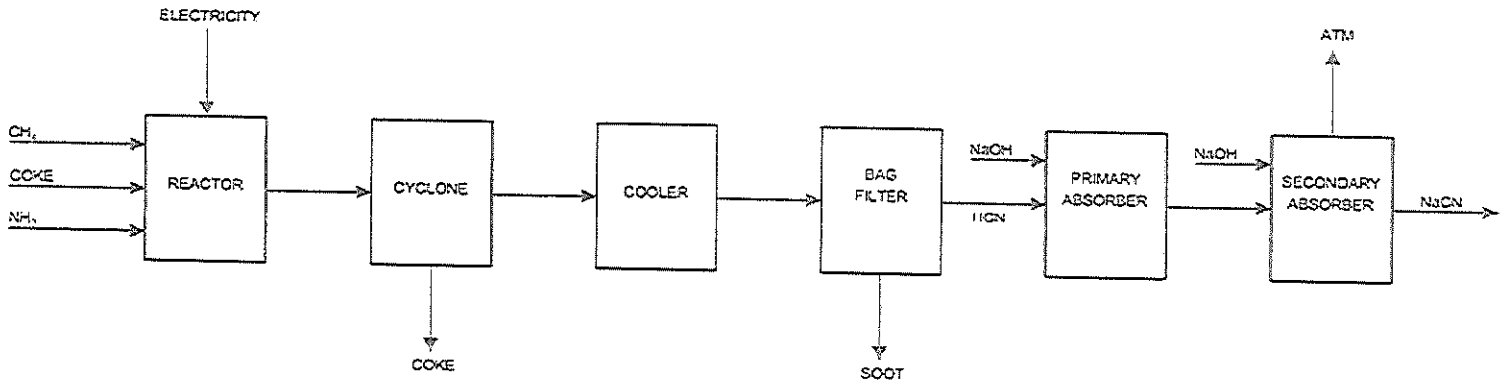
Chlorine plant



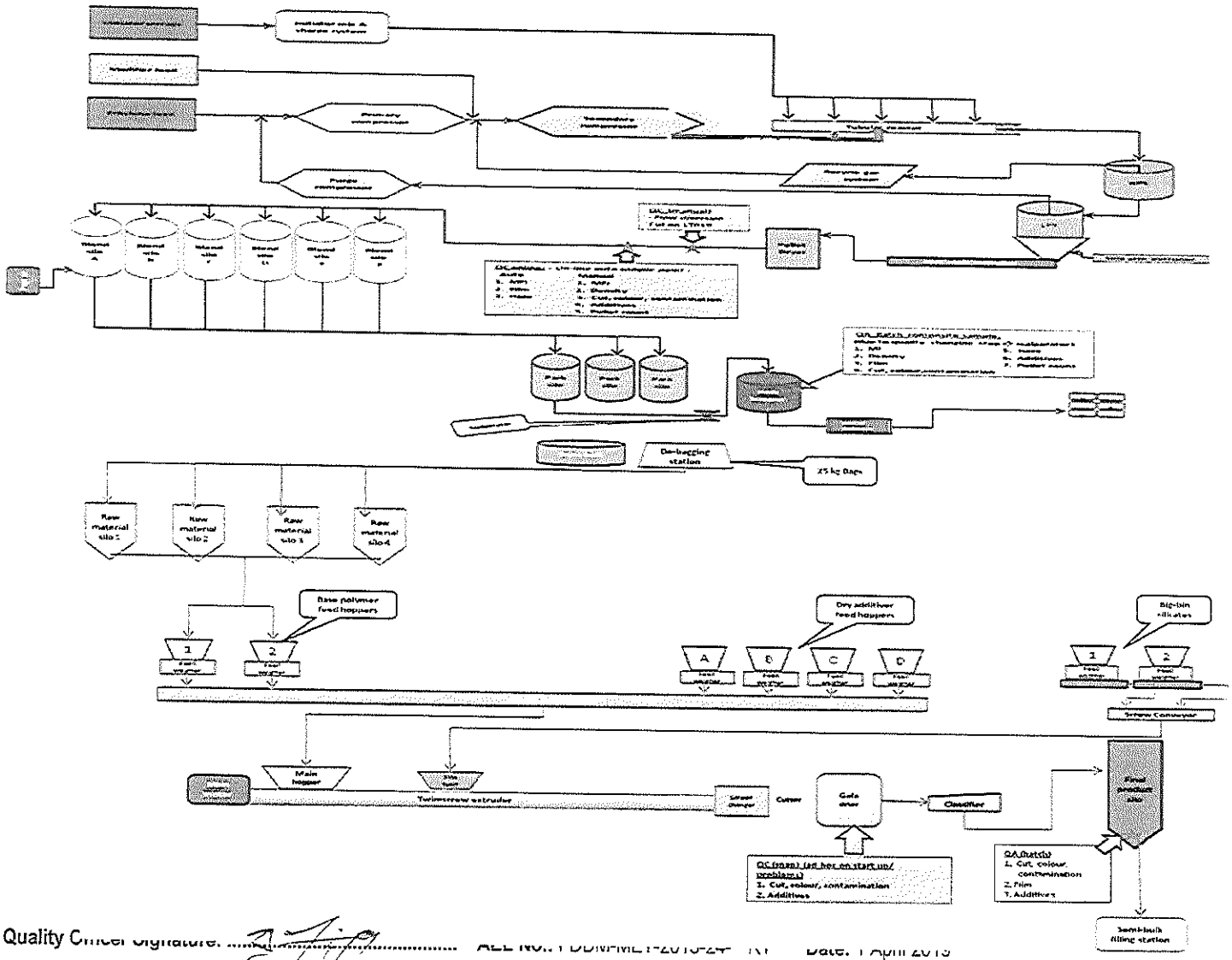
Vinyl's – VCM and PVC



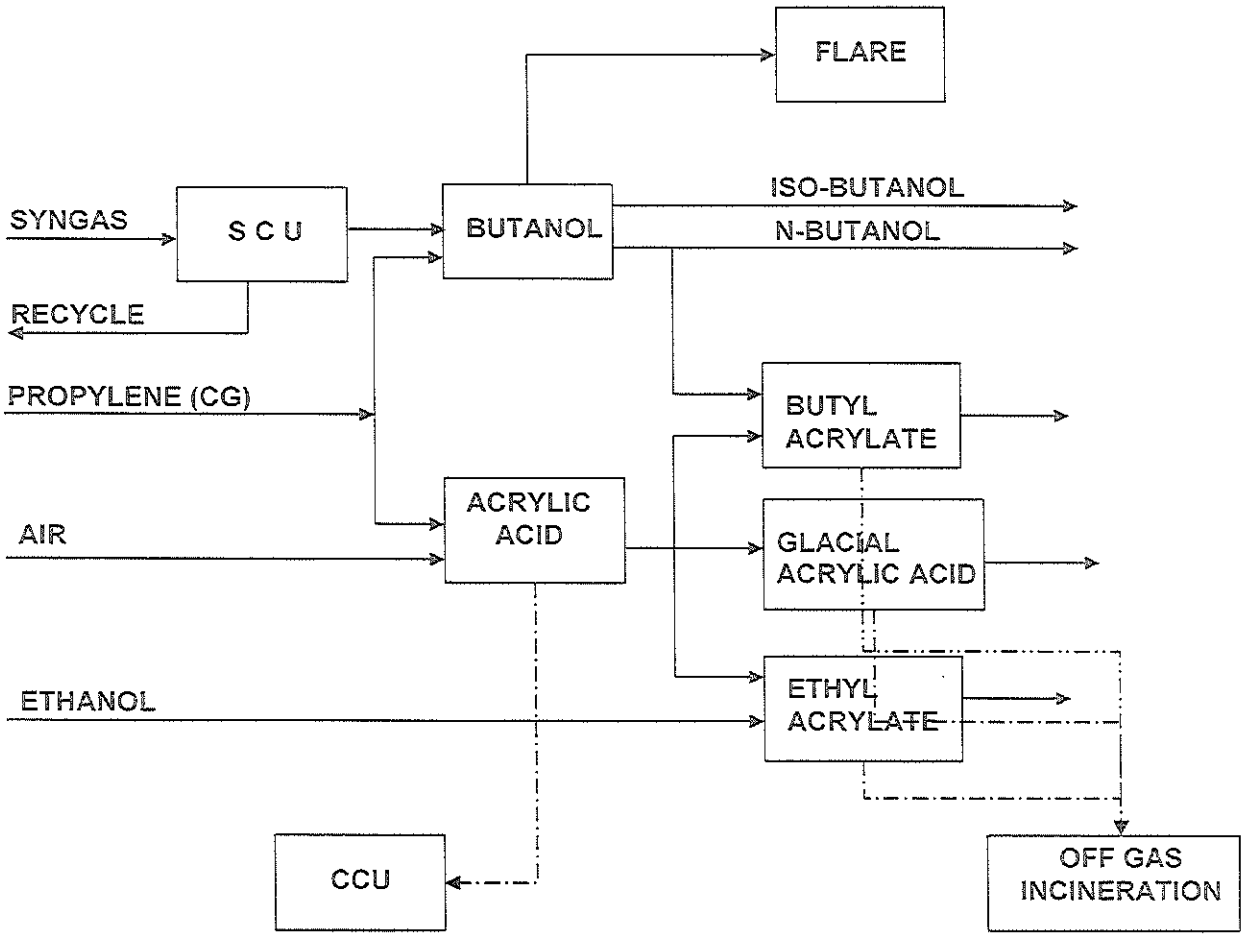
Cyanide plant

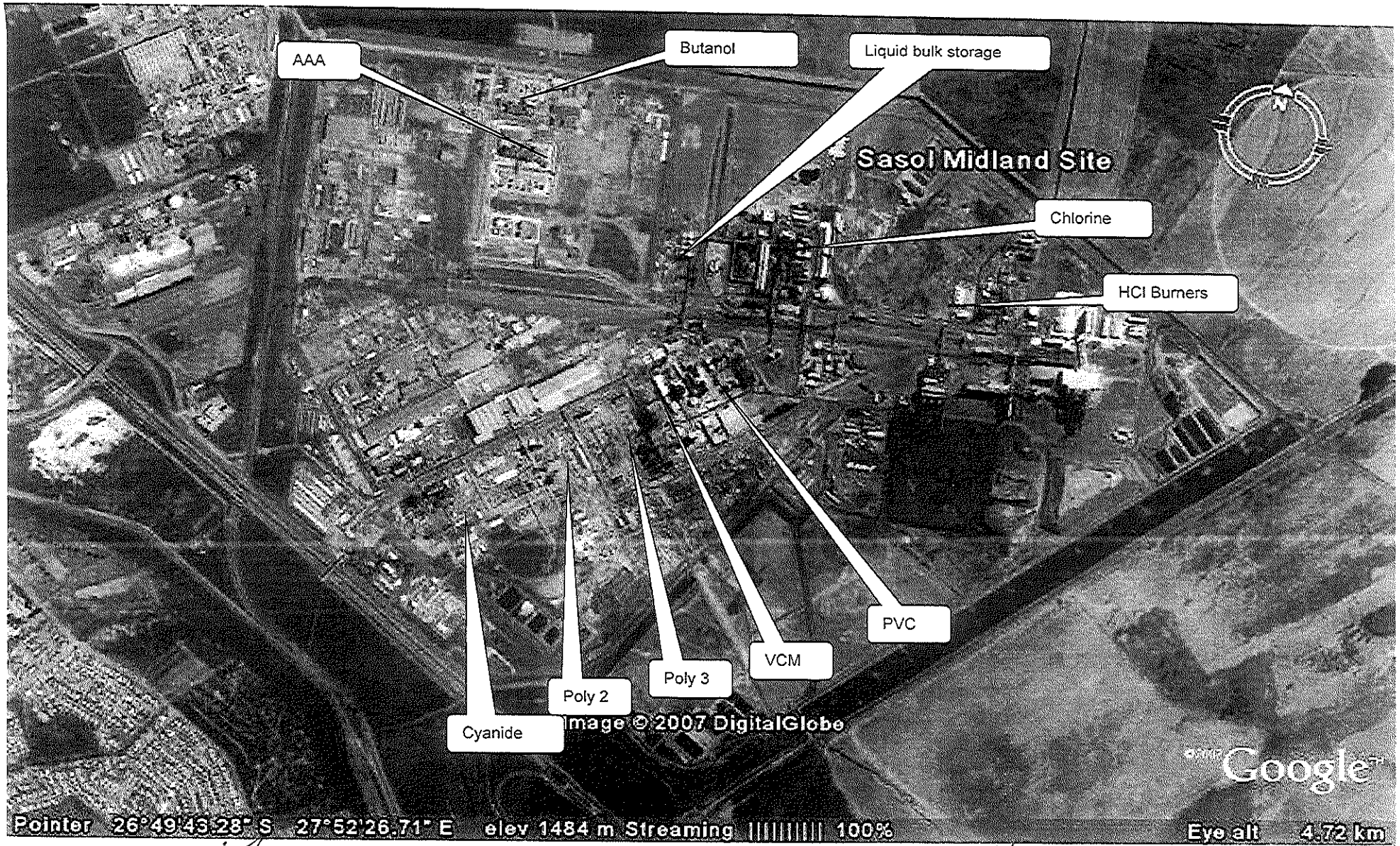


Poly 3 plant


Raw material silo 1
Raw material silo 2
Raw material silo 3
Raw material silo 4
Base polymer feed hoppers
Dry additive feed hoppers
Big-bin fillstore
Screw Conveyor
Main hopper
Twinscrew extruder
Cutter
Gate valve
Classifier
Debagging station
25 kg Bags
A
B
C
D
1
2

AAA/Butanol


FLARE
SYNGAS
S C U
BUTANOL
ISO-BUTANOL
N-BUTANOL
RECYCLE
PROPYLENE (CG)
BUTYL ACRYLATE
ACRYLIC ACID
AIR
GLACIAL ACRYLIC ACID
ETHANOL
ETHYL ACRYLATE
CCU
OFF GAS INCINERATION



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6. RAW MATERIALS AND PRODUCTS

6.1. Raw materials used

Raw Material Type	Maximum Permitted Consumption Rate (Volume)	Units (quantity/period)
Poly 2		
Ethylene	[redacted]	t/annum
1-Hexene		t/annum
Poly 3		
Ethylene	[redacted]	t/annum
Propylene		t/annum
VCM and PVC		
VCM Plant		
Ethylene	[redacted]	t/annum
Chlorine		t/annum
Oxygen		t/annum
PVC Plant		
Vinyl Chloride monomer (VCM)		t/annum
Butanol		
Propylene	[redacted]	t/a
Synthesis gas		Nm^3/h
99 mol% Hydrogen		Nm^3/h
AAA		
Propylene	[redacted]	t/a
Butanol		t/a
Ethanol		t/a
Cyanide 1		
Ammonia	[redacted]	Ton/annum
Natural gas		GJ/annum
Caustic		Ton/annum
Cyanide 2		
Ammonia	[redacted]	Ton/annum
Natural gas		GJ/annum
Caustic		Ton/annum

Chlorine		
Sodium Chloride	[redacted]	Ton/annum

6.2. PRODUCTION RATES

Product Name	Maximum Production Capacity Permitted (Volume)	Units (quantity/period)
Poly 2		
Polyethylene	[redacted]	t/a
Poly 3		
Polyethylene	[redacted]	t/a
VCM and PVC		
VCM Plant		
Vinyl Chloride monomer (VCM)	[redacted]	t/annum
PVC Plant		
Poly (vinyl chloride) (PVC)	[redacted]	t/annum
Cyanide 1		
Sodium Cyanide	[redacted]	Ton/annum
Cyanide 2		
Sodium Cyanide	[redacted]	Ton/annum
Chlorine		
Chlorine	[redacted]	Ton/annum as 100%
Sodium Hydroxide		Ton/annum as 100%
Hydrochloric acid		Ton/annum as 31% solution
Calcium chloride		Ton/annum as 34% solution
AAA/Butanol		
Crude Acrylic acid	[redacted]	Ton/annum
Glacial acrylic acid (high purity)		Ton/annum
Ethyl acrylate		Ton/annum
Butyl acrylate		Ton/annum
N-BuoH		Ton/annum
Iso-BuOH		Ton/annum

6.3. MATERIALS USED IN ENERGY SOURCES

Materials for Energy Source	Actual Consumption Rate (Quantity)	Units (quantity/period)	Materials Characteristics
Steam from Coal	Information contained within the Sasol Sasolburg Operations Gas Loop, Utilities and Chemicals AEL		
Electricity			

By-Product Name	Maximum Production Capacity Permitted (Volume)	Design Production Capacity (Volume)	Actual Production Capacity (Volume)	Units (quantity/period)
VCM and PVC				
VCM Plant				
Water	[redacted]			t/annum
Hydrochloric Acid				t/annum
***Maximum water generated can vary significantly based on upset conditions on the plant and is therefore not specified				
Chlorine				
Hydrogen	[redacted]			Ton/annum

6.4. SOURCES OF ATMOSPHERIC EMISSIONS

6.4.1. Point source parameters

Point Source code	Source name	Latitude (decimal degrees)	Longitude (decimal degrees)	Height of Release Above Ground (m)	Height Above Nearby Building (m)	Diameter at Stack Tip / Vent Exit (m)	Actual Gas Exit Temperature (°C)	Actual Gas Volumetric Flow (m³/hr)	Actual Gas Exit Velocity (m/s)
AAA									
1	ST6010	26.82331	27.86686	20	-	0.01	838	345	10.18
2	ST1040	26.82297	27.86811	25	-	1.77	126.67	74000	12.23
3	VGT VL6011	-26.82642	27.87342	29	-	0.305	25	4 200	16.0
Vinyl Chloride Monomer (VCM) Plant									
4	VCM incinerator	26.82989	27.87317	30	None in the vicinity	0.36	41	9 830	26
5	VCM Cracker	26.82969	27.87272	40	None in the vicinity	1.71	390	112 300	3.2
6	VCM Safety Scrubber – not continuous flow	26.82833	27.87253	26.6	None in the vicinity	0.7	96	18 500	13.5
Poly Vinyl Chloride (PVC) Plant									
7	PVC Reaction Stack North	26.82758	27.87408	24		0.60	35	8000	4.57
8	PVC Reaction Stack South	26.82717	27.87353	24		0.60	35	8000	4.57
9	PVC Slurry Stock Tank Stack	26.82717	27.87442	35		1.4	45	60 000	7
10	PVC VCM Recovery Stack	26.828	27.87408	24		0.05	(-20 to +20)	5 000	3.0

Point Source code	Source name	Latitude (decimal degrees)	Longitude (decimal degrees)	Height of Release Above Ground (m)	Height Above Nearby Building (m)	Diameter at Stack Tip / Vent Exit (m)	Actual Gas Exit Temperature (°C)	Actual Gas Volumetric Flow (m³/hr)	Actual Gas Exit Velocity (m/s)
11	PVC Multigrade (sludge plant) vent Stack	26.82758	27.87408	6		0.5	106	7 200	9.06
12	PVC Drier Stack North	26.83	27.87	35	-	1.8	60-70	180 000	15.0
13	PVC Drier Stack South	26.83	27.87	35	-	1.8	60-70	180 000	15.0
Chlorine plant									
14	HCl burner stacks	26.82419	27.88142	15		0.16	31	1462	4.2
15	Chlorine hypo stacks	26.82361	27.87406	40	-	0.25	23	1142	3.7
Cyanide plant									
16	Cyanide 1 stack	26.82361	27.86672	28	-	0.2	35	Cannot be quantified due to hydrogen and the associated fire risk	
17	Cyanide 2 stack	26.82361	27.86672	28	-	0.2	35	Cannot be quantified due to hydrogen and the associated fire risk	
Polythene Business - Polythene 2 (LLDPE) and Polythene 3 (LDPE) plant									
18	Poly 2 Flare	26.83327	27.87093	±52	None in the vicinity	0.762 (OD)	Flame	Designed for max relief load of 163t/h	Above flashback velocity
19	Poly 3 Flare	26.83271	27.87146	52	None in the vicinity	0.60 (ID)	Flame	Designed for max relief load of 120t/h	Above flashback velocity

The VGT VL6011, VCM Safety scrubber and PVC VCM Recovery unit is only in operations during upset conditions

6.4.2. Area and/or line source parameters

Area Source code	Source name	Source Description	Latitude (decimal degrees) of SW corner	Longitude (decimal degrees) of SW corner	Height of Release Above Ground (m)	Length of Area (m)	Width of Area (m)	Angle of Rotation from True North (°)
1	Tank TK219	Toluene tank	-26.8213	27.8674	11	n/a	n/a	n/a
2	Tank TK144	OXO CAT tank	-26.8213	27.8675	13	n/a	n/a	n/a
3	Tank TK254	Spent CAT tank	-26.8214	27.8675	9	n/a	n/a	n/a
4	Tank TK2009	Toluene tank	-26.8238	27.8672	7	n/a	n/a	n/a
5	Tank TK2003	Acrylic Acid off-spec tank	-26.8237	27.8674	12	n/a	n/a	n/a
6	TB1704	Low boil storage tank	-26.8293	27.8724	5	n/a	n/a	n/a
7	TB1703	High boil storage tank	-26.8289	27.8719	6	n/a	n/a	n/a
8	FB1701	VCM Off spec tank	-26.8287	27.8720	9	n/a	n/a	n/a
9	VCM Sphere A	Storage of VCM	-26.8263361	27.8571944	22	n/a	n/a	n/a
10	VCM Sphere B	Storage of VCM	-26.8265028	27.87554722	22	n/a	n/a	n/a
11	TB1701	Storage of Ethylene Dichloride	-26.8290167	27.87220278	9	n/a	n/a	n/a
12	TB1702	Storage of wet Ethylene Dichloride	-26.8289028	27.87205833	9	n/a	n/a	n/a
13	TB1705	Storage of Ethylene Dichloride	-26.8291444	27.87231944	9	n/a	n/a	n/a

7. APPLIANCES AND MEASURES TO PREVENT AIR PO.0LLUTION

7.1. Appliances and control measures

Appliances				Air Pollution Control Technology								Associate Source Co
Appliance / Process Equipment Number	Appliance Type / Description	Appliance Serial Number	Appliance Manufacture Date	Product Name and Model	Technology Type	Commission Date	Date of Significant Modification / Upgrade	Design Capacity	Nominal Capacity	Permitted Minimum Control Efficiency (%)	Permitted Minimum Utilization (%)	
All air pollution control technology must be available for more than 96% of the time												
Not available	Not available	Not available	Not available	Not available	Scrubbers	2004	None	**	**	-	-	3
Not available	Not available	Not available	Not available	Not available	Scrubbers	1996	None	**	**	-	-	4
Not available	Not available	Not available	Not available	Not available	Scrubbers	1996	None	**	**	-	-	6
Not available	Not available	Not available	Not available	Not available	Non-thermal vapour recovery unit	1977	None	**	**	-	-	10
Not available	Not available	Not available	Not available	Not available	Cyclone Filters	2001	None	**	**	-	-	11
Not available	Not available	Not available	Not available	Not available	Cyclones	1977	None	**	**	-	-	12&13
Not available	Not available	Not available	Not available	Not available	Scrubber	1977	2014	15.3 t/h	**	-	-	15
Not available	Not available	Not available	Not available	Not available	Scrubber	1964	2003	**	**	-	-	16
Not available	Not available	Not available	Not available	Not available	Scrubber	1983	**	**	**	-	-	17

7.2. POINT SOURCE – MINIMUM EMISSIONS STANDARDS (UNDER NORMAL WORKING CONDITIONS)

Point source – operating requirements

Point Source Code	Pollutant Name	Maximum Release Rate			Duration of Emissions
		(mg/Nm³)	Date to be Achieved By	Average Period	
1	VOCs	150	1 April 2015 – 31 March 2025	Hourly	Continuous
2	VOCs	150	1 April 2015 – 31 March 2025	Hourly	Continuous
3	VOCs	40 000	1 April 2015 – 31 March 2025	Hourly	Continuous
4	Particulates	25	1 April 2015 – 31 March 2020	Daily	Continuous
		10	1 April 2020– 31 March 2025		
	SO_2	50	1 April 2015 – 31 March 2025	Daily	Continuous
	NO expressed as NO_2	200	1 April 2015 – 31 March 2025	Daily	Continuous
	HF	1	1 April 2015 – 31 March 2025	Daily	Continuous
	CO	75	1 April 2015 – 31 March 2020	Daily	Continuous
		50	1 April 2020 – 31 March 2025		
	HCl	30	1 April 2015 – 31 March 2020	Daily	Continuous
		10	1 April 2020 – 31 March 2025		
	Pb+As+Sb+Cr+Co+Cu+Mn+Ni+V	0.5	1 April 2015 – 31 March 2025	Hourly	Continuous
	Hg	0.05	1 April 2015 – 31 March 2025	Hourly	Continuous
	Cd+Tl	0.05	1 April 2015 – 31 March 2025	Hourly	Continuous

	TOC	10	1 April 2015 – 31 March 2025	Daily	Continuous
	NH_3	10	1 April 2015 – 31 March 2025	Daily	Continuous
	Dioxins	0.1ngTEQ/Nm³	1 April 2015 – 31 March 2025	Hourly	Continuous
5	Particulates	120	1 April 2015 – 31 March 2020	Hourly	Continuous
		70	1 April 2020 – 31 March 2025		
	SO_2	1 700	1 April 2015 – 31 March 2020	Hourly	Continuous
		1 000	1 April 2020 – 31 March 2025		
	NOx	1 700	1 April 2019 – 31 March 2020	Hourly	Continuous
		400	1 April 2020 – 31 March 205	Hourly	Continuous
6	VOCs	40 000	1 April 2015 – 31 March 2025	Hourly	Batch
7	VOCs	40 000	1 April 2019 – 31 March 2025	Hourly	Continuous
8	VOCs	40 000	1 April 2019 – 31 March 2025	Hourly	Continuous
9	VOCs	40 000	1 April 2019 – 31 March 2025	Hourly	Continuous
10	VOCs	40 000	1 April 2015 – 31 March 2025	Hourly	Continuous
11	VOCs	40 000	1 April 2015 – 31 March 2025	Hourly	Batch
12	Particulates	21 mg/Am³	1 April 2015 – 31 March 2025	Hourly	Continuous
13	Particulates	21 mg/Am³	1 April 2015 – 31 March 2025	Hourly	Continuous
14a	HCl	10	1 April 2015 – 31 March 2025	Hourly	Continuous
14b	HCl	10	1 April 2015 – 31 March 2025	Hourly	Continuous
14c	HCl	10	1 April 2015 – 31 March 2025	Hourly	Continuous
14d	HCl	10	1 April 2015 – 31 March 2025	Hourly	Continuous
15	Cl_2	50	1 April 2015 – 31 March 2025	Hourly	Continuous

16	HCN	2	1 April 2015 – 31 March 2020	Hourly	Continuous
		0.5	1 April 2020 – 31 March 2025		
17	HCN	2	1 April 2015 – 31 March 2020	Hourly	Continuous
		0.5	1 April 2020 – 31 March 2025		

7.2.1 In the case of a limit value exceedance of a parameter not monitored through online monitoring but via a third party, the following shall apply:

- The air quality officer shall be notified within 24-hours from the time that Sasol becomes aware of the exceedance
- Within 14 days after the notification of the air quality officer, a plan on how the facility will manage the upset condition and the plant be brought back into compliance, must be presented to the air quality officer together with a dispersion model for approval.
- On acceptance of the plan with its associated impact, the Air Quality officer will issue a written approval for the implementation of the plan and the necessary reporting and tracking to bring the plant back into compliance
- Failing to adhere to the above mentioned under 7.2.9 or the plan will constitute non-compliance

7.3. POINT SOURCE OPERATING CONDITIONS (UNDER START-UP, MAINTENANCE AND SHUT-DOWN CONDITIONS)

The following conditions must be adhered to at minimum during start up, maintenance and shut down conditions:

Should normal start up, maintenance and shutdown conditions exceed a period of 48 hours, Section 30 of the National Environmental Management Act, 1998 (Act No. 107 of 1998), shall apply.

Technical and Engineering testing work will be considered extraordinary maintenance to which conditions in Section 7.2 and normal start-up, shut down and maintenance/upset conditions do not apply. Prior notification must be given to the Air Quality Officer to confirm the start and end date of this testing work.

7.4. POINT SOURCE – EMISSIONS MONITORING AND REPORTING REQUIREMENTS

Point Source Code	Emissions Sampling / Monitoring Method	Sampling Frequency	Sampling Duration	Parameters to be measured	Parameters to be reported	Conditions under which monitoring should be stopped	Reporting Frequency
1	As Indicated in the National Environmental Management: Air Quality Act (39 of 2004) Standards and Regulations (Refer to Schedule A)	At least Annually	As Indicated in the National Environmental Management: Air Quality Act (39 of 2004) Standards and Regulations (Refer to Schedule A)	VOCs	VOCs	Upon written approval by the Air Quality Officer	Annually
2	As Indicated in the National Environmental Management: Air Quality Act (39 of 2004) Standards and Regulations (Refer to Schedule A)	At least Annually	As Indicated in the National Environmental Management: Air Quality Act (39 of 2004) Standards and Regulations (Refer to Schedule A)	VOCs	VOCs	Upon written approval by the Air Quality Officer	Annually
3	As Indicated in the National Environmental Management: Air Quality Act (39 of 2004) Standards and Regulations (Refer to Schedule A)	Annually – if operational	As Indicated in the National Environmental Management: Air Quality Act (39 of 2004) Standards and Regulations (Refer to Schedule A)	VOCs	VOCs	Upon written approval by the Air Quality Officer	Annually
4	As Indicated in the National Environmental Management: Air Quality	Continuous emission monitoring as	As Indicated in the National Environmental Management: Air Quality	Particulates, SO_2, NOx, CO, HCl, HF, NH_3,	Particulates, SO_2, NOx, CO, HCl, HF, NH_3,	Upon written approval by the Air Quality Officer	Annually

	Act (39 of 2004) Standards and Regulations (Refer to Schedule A)	per Minimum Emission Standards All other parameters, at least annually	Act (39 of 2004) Standards and Regulations (Refer to Schedule A)	Pb, As, Sb, Cr, Co, Cu, Mn, Ni, V, Hg, Cd, Tl, TOC, dioxins&furans	Pb, As, Sb, Cr, Co, Cu, Mn, Ni, V, Hg, Cd, Tl, TOC, dioxins&furans		
5	As Indicated in the National Environmental Management: Air Quality Act (39 of 2004) Standards and Regulations (Refer to Schedule A)	At least Annualy	As Indicated in the National Environmental Management: Air Quality Act (39 of 2004) Standards and Regulations (Refer to Schedule A)	Particulates, SO_2 and NOx	Particulates, SO_2 and NOx	Upon written approval by the Air Quality Officer	Annually
6	As Indicated in the National Environmental Management: Air Quality Act (39 of 2004) Standards and Regulations (Refer to Schedule A)	Annualy if operational	As Indicated in the National Environmental Management: Air Quality Act (39 of 2004) Standards and Regulations (Refer to Schedule A)	VOCs	VOCs	Upon written approval by the Air Quality Officer	Annually
7	As Indicated in the National Environmental Management: Air Quality Act (39 of 2004) Standards and Regulations (Refer to Schedule A)	At least Annualy	As Indicated in the National Environmental Management: Air Quality Act (39 of 2004) Standards and Regulations (Refer to Schedule A)	VOCs	VOCs	Upon written approval by the Air Quality Officer	Annually

8	As Indicated in the National Environmental Management: Air Quality Act (39 of 2004) Standards and Regulations (Refer to Schedule A)	At least Annualy	As Indicated in the National Environmental Management: Air Quality Act (39 of 2004) Standards and Regulations (Refer to Schedule A)	VOCs	VOCs	Upon written approval by the Air Quality Officer	Annually
9	As Indicated in the National Environmental Management: Air Quality Act (39 of 2004) Standards and Regulations (Refer to Schedule A)	At least Annualy	As Indicated in the National Environmental Management: Air Quality Act (39 of 2004) Standards and Regulations (Refer to Schedule A)	VOCs	VOCs	Upon written approval by the Air Quality Officer	Annually
10	As Indicated in the National Environmental Management: Air Quality Act (39 of 2004) Standards and Regulations (Refer to Schedule A)	Annualy if operational	As Indicated in the National Environmental Management: Air Quality Act (39 of 2004) Standards and Regulations (Refer to Schedule A)	VOCs	VOCs	Upon written approval by the Air Quality Officer	Annually
11	As Indicated in the National Environmental Management: Air Quality Act (39 of 2004) Standards and Regulations (Refer to Schedule A)	At least Annualy	As Indicated in the National Environmental Management: Air Quality Act (39 of 2004) Standards and Regulations (Refer to Schedule A)	VOCs	VOCs	Upon written approval by the Air Quality Officer	Annually
12	As Indicated in the National Environmental	At least Annualy	As Indicated in the National Environmental	Particulates	Particulates	Upon written approval by the Air Quality Officer	Annually

	Management: Air Quality Act (39 of 2004) Standards and Regulations (Refer to Schedule A)		Management: Air Quality Act (39 of 2004) Standards and Regulations (Refer to Schedule A)				
13	As Indicated in the National Environmental Management: Air Quality Act (39 of 2004) Standards and Regulations (Refer to Schedule A)	At least Annualy	As Indicated in the National Environmental Management: Air Quality Act (39 of 2004) Standards and Regulations (Refer to Schedule A)	Particulates	Particulates	Upon written approval by the Air Quality Officer	Annually
14a,b,c,d	As Indicated in the National Environmental Management: Air Quality Act (39 of 2004) Standards and Regulations (Refer to Schedule A)	At least Annualy	As Indicated in the National Environmental Management: Air Quality Act (39 of 2004) Standards and Regulations (Refer to Schedule A)	HCl	HCl	Upon written approval by the Air Quality Officer	Annually
15	As Indicated in the National Environmental Management: Air Quality Act (39 of 2004) Standards and Regulations (Refer to Schedule A)	At least Annualy	As Indicated in the National Environmental Management: Air Quality Act (39 of 2004) Standards and Regulations (Refer to Schedule A)	Cl_2	Cl_2	Upon written approval by the Air Quality Officer	Annually
16&17	As Indicated in the National Environmental Management: Air Quality Act (39 of 2004)	At least Annualy	As Indicated in the National Environmental Management: Air Quality Act (39 of 2004)	HCN	HCN	Upon written approval by the Air Quality Officer	Annually

	Standards and Regulations (Refer to Schedule A)		Standards and Regulations (Refer to Schedule A)				

7.5. AREA AND/OR LINE SOURCE – MANAGEMENT AND MITIGATION MEASURES

Area and/or Line Source Code	Area and/or Line Source Description	Description of Specific Measures	Timeframe for Achieving Required Control Efficiency	Method of Monitoring Measures Effectiveness	Contingency Measures
N/A	N/A	N/A	N/A	N/A	N/A

7.6. ROUTINE REPORTING AND RECORD-KEEPING

Complaints register

The licence holder must maintain a complaints register at its premises, and such register must be made available for inspections. The complaints register must include the following information on the complainant, namely, the name, physical address, telephone number, date and the time when the complaint was registered. The register should also provide space for noise, dust and offensive odours complaints.

Furthermore, the licence holder is to investigate and, monthly, report to the licencing authority in a summarised format on the total number of complaints logged. The complaints must be reported in the following format with each component indicated as may be necessary:

(a) Source code / name;
(b) Root cause analysis;
(c) Calculation of impacts / emissions associated with incidents and dispersion modelling of pollutants, where applicable;
(d) Measures implemented or to be implemented to prevent recurrence; and
(e) Date by which measure will be implemented.

The licensing authority must also be provided with a copy of the complaints register. The record of a complaint must be kept for at least 5 (five) years after the complaint was made.

7.7 ANNUAL REPORTING

The licence holder must complete and submit to the licensing authority an annual report. The report must include information for the year under review (i.e. annual year end of the company). The report must be submitted to the licensing authority not later than 60 (sixty) days after the end of each reporting period. The annual report must include, amongst others, the following items:

(a) Pollutant emissions trend;

(b) Compliance audit report(s);

(c) Major upgrades projects (i.e. abatement equipment or process equipment); and

(d) Greenhouse gas emissions: Reporting in terms of S43 (1)(i) shall be done in accordance with the Greenhouse Gas Reporting Regulations.

The holder of the licence must keep a copy of the annual report for a period of at least 5 (five) years.

8. DISPOSAL OF WASTE AND EFFLUENT ARISING FROM ABATEMENT EQUIPMENT CONTROL TECHNOLOGY

The disposal of any waste and effluent arising from the abatement equipment control technology must comply with the relevant legislation and requirements of the relevant authorities.

Source Code / Name	Waste / Effluent Type	Hazardous Components Present	Method of Disposal
All scrubber liquor and water effluent are treated at the Sasol bio- and water works facility or recycled into plant processes during manufacturing			

9. PENALTIES FOR NON-COMPLIANCE WITH LICENCE AND STATUTORY CONDITIONS OR REQUIREMENTS

Failure to comply with any of the licence and relevant statutory conditions and/or requirements is an offence, and licence holder, if convicted, will be subjected to those penalties as set out in section 52 of the AQA.

10. REPORTING OF ABNORMAL RELEASES AND EMERGENCY RESPONSES

The holder must prevent deviations from normal operating conditions that would result in pollution exceeding specified limit values. If any conditions exist that will result in excessive emissions or nuisance must be immediately reported to the Air Quality Officer. Section 30 NEMA incidence must also be reported to the Air Quality Officer within 24 hours. Where excessive emissions occur, which could cause adverse health and environmental impacts or nuisance, urgent corrective measures must be taken by the holder to contain or minimise the emissions through operational interventions. Remediation, if required shall be carried out to the satisfaction of the licensing authority and/or any other government agencies.

11. APPEAL OF ATMOSPHERIC EMISSIONS LICENCE

11.1 The holder of the authorization must notify every registered interested and affected party, in writing and within five (5) working days of the date of issue, of the holder's receipt of this atmospheric emissions licence.

11.2 The written notification referred to in Condition 11.1 above must –

- 11.2.1 Specify the date on which the atmospheric emissions licence was issued;
- 11.2.2 Inform interested and affected parties of the appeal procedure provided for in Chapter 7 the GN No R543 of 18 June 2010; and
- 11.2.3 Advise interested and affected parties that a copy of the atmospheric emissions licence and reasons for the decision will be furnished on request

11.3 An appeal against the decisions contained in this atmospheric emissions licence must be lodged, in writing with the: Municipal Manager: Fezile Dabi District Municipality, PO Box 10, Sasolburg, 1949, Tel No:016 970 8600, Fax No: 016 973 1582

12. REVIEW

12.1 The authority shall have the right to review the licence continuously within the period as stipulated in clause 1 above or as and when such review is deemed necessary by the Air Quality Officer;

12.2 Such review shall be done as a result of amendments in legislation or by virtue of findings from regular inspections done by the Air Quality Officer;

12.3 The authority shall serve the license holder with a 30(thirty) day notice when such a necessity arises;

12.4 The authority shall under no circumstances be barred by license holder from reviewing the license upon receiving notice of review.