

DOCUMENT REFERENCE NUMBER  
006/AMINO

Water Consumption Rates

Appendices 006/Amino /1 and 006 / Amino / 2 are the utility bills for two different periods of operation of the factory. The former for the period of 24 June 2002 to 10 October, 2002 whilst the latter for 7th February, 2003 to 6th June, 2003

The Company has two water meters, one for bulk quantities ( to be known as "A") and one for smaller quantities ( to be known as "B").

Large Meter Calculation.  
See 006 / Amino / 1

Period 24 June to 10th October, 2002  
78 working days in this period.

Water consumption per working day is 2778 cu.mtrs / 78 working days

i.e. 35.62 cu.mtrs/day

Small Meter Calculation.  
See 006 / Amino / 2

Period 7th February, 2003 to 6th June 2003  
83 working days in this period

Consumption per working day = 48 cu.mtrs /83 working days

i.e. 0.6 cu.mtrs/day

Total consumption is  $A + B$

Hence Total Consumption Rate is  $35.62 + 0.6 = 36.2$  cu.mtrs / day

Assume a 5% variance

Water consumed is 40 cu.mtrs/day



ALS A61  
INDUSTRIJALI

**Detallji dwar il-kont**

District Code: 007  
Nru. tal-kont: 007443790-5  
Kodiċi tal-post: 9219  
Numru ta' residenti: NOT APPLICABLE

**Numru tat-transazzjoni Deskrizzjoni**

18285817 Water Consumption  
18285818 Service Charge

**WATER SERVICES  
CORPORATION**

Triq Qormi, Luqa LQA 05  
Tel: (356) 21249851 Fax: (356) 21223016  
Tax Reg. No.: 1243-5416  
e-mail: water@wsc.com.mt

**Detallji ta' l-invoice**

Numru ta' l-invoice: 5245080-8  
Data ta' l-invoice: 19 NOV 2002  
Tal-perjodu bejn: 24 JUN 2002 - 10 OCT 2002



**ENEMALTA CORPORATION**

Moll il-Knisja, Marsa HMR 17  
Tel: (356) 21223601  
Fax: (356) 21243055  
Tax Reg. No.: 1273-4807

Qari (A=Attwali E=Stima C=Qari tieghek)

L-aħħar qari	Konsum	Debitu	Kreditu
18638A	2778	2361.30	7.11

Water Subtotal : 2368.41

Electricity Subtotal : 0.00

Invoice Total : 2368.41

Other Credits : 0.00  
Outstanding : 8788.04 0.00

Payments Received : 0.00

Total Due : 11156.45

**FINAL NOTICE**  
SUSPENSION TO FOLLOW

Il-ħlas irid isir fi żmien 45 gurnata mid-data tal-kont. Jekk jogħġbok ibgħat il-kont shiħ mal-pagament.

**Messaġġ**

Consumer Scheme Code :Water Industrial Establishment  
No. of Days Water: 108, No. of Days Elect: Not Applicable.

Appendix 006/Ami20/1



Indirizz fejn hemm l-arloġġ

AMINO CHEMICALS LTD A61  
QASAM INDUSTRIJALI  
MARSA

**Dettalji dwar il-kont**

District Code: 007  
Nru. tal-kont: 007443520-5  
Kodiċi tal-post: 9230  
Numru ta' residenti: NOT APPLICABLE

**WATER SERVICES**

CORPORATION

Triq Qormi, Luqa LOA 05

Tel: (356) 21249851 Fax: (356) 21223016

Tax Reg. No.: 1243-5416

e-mail: water@wsc.com.mt

**Dettalji ta' l-invoice**

Numru ta' l-invoice: 5922788-5  
Data ta' l-invoice: 29 JUL 2003  
Tal-perjodu bejn: 07 FEB 2003- 06 JUN 2003

Qari (A=Attwali E=Stima C=Qari tieghek)

Numru tat-transazzjoni	Deskrizzjoni	L-aħħar qari	Konsum	Debitu	Kreditu
20533296	Water Consumption	2558A	48	40.80	
20533297	Service Charge			7.83	

Water Subtotal : 48.63

20531896	Electricity Consumption	810160A	260540	7293.29	
20531897	Rent on Electricity Meter			7.83	

Electricity Subtotal : 7301.12

Invoice Total : 7349.75 To Post.

Other Credits : 0.00

Outstanding : 5744.76 0.00

Payments Received : 0.00

Total Due : 13094.51

A/C 6100

**Il-hlas irid isir fi żmien 45 ġurnata mid-data tal-kont. Jekk jogħġbok ibgħat l-avviż tal-hlas mal-pagament.**

**Message**

Consumer Scheme Code(s) : Water Industrial Establishment / Electricity Max-Demand Commercial  
No. of Days Water: 119, No. of Days Elect: 119.

**Remittance Advice / Avviż tal-Hlas**

Payment is to be received within 45 days from the date of invoice. Kindly send the remittance advice when effecting payment.  
Cheques or money orders are to be made payable to the Water Services Corporation.

007

AMINO CHEMICALS LTD A61  
QASAM INDUSTRIJALI  
MARSA HMR 15

Account No: 007443520-5  
Invoice No: 5922788-5  
Invoice Date: 29 JUL 2003  
Invoice Amount: Lm 7349.75  
Total Due: Lm 13094.51  
Payment: Lm



Appendix 006/Amino/2

DOCUMENT REFERENCE NUMBER  
007/AMINO

Technical Means of Combating Pollutants



### **Main technical features of the plant**

- 1 All operations are carried out in closed equipments (reactors, centrifuges, driers)
- 2 Solids are charged in the reactor through the manhole. The charging process is usually quite fast.
- 3 Liquid are either fed with appropriate pump or sucked in by reducing the pressure (by means of the vacuum pump).
- 4 Aspirators are placed near every manhole in order to draw local emissions. The corresponding gaseous stream is conveyed by a fan to a scrubber ( AB 202 ) . The emissions during charging are negligible.
- 5 Every reactor is equipped with a shell and tube condenser cooled with refrigerated water (5-7°C). Since reactors are vented through the condenser, the cooling causes the condensation of the main part of the volatile components. The outlet flow is nonetheless conveyed to the scrubber.
- 6 The vacuum pump connected to reactors is equipped with an after-cooler served by refrigerated water. The vent pipe is connected to the scrubber.
- 7 Vacuum pumps connected to driers are equipped with :  
a brine-cooled condenser installed before the pump, which is able to condensate the main part of the volatiles which may reach the pump:  
a cooler served by refrigerated water installed after the pump.  
The vents are connected to the scrubbers
- 8 Feeding of underground tanks is carried out in closed circuit .

As far as safety aspects is concerned , it also should be noted that , in order to avoid flammable mixtures due to the use of solvents , all reactors and ancillary vessels are lightly pressurized with nitrogen .



### **Gaseous emissions treatment systems**

The site has four different gaseous emissions treatment systems :

- Scrubber tower item AB – 201  
This is a scrubber tower which treat gaseous emissions coming from acid resistant reaction units ( normally used for very little batch size ) .  
The towers is equipped with internal packaging and use a chilled solution of NaOH as treatment medium .
- Scrubber tower item AB – 202  
This a scrubber tower which treat gaseous emission coming from local suction ( mainly manhole of the reactors during raw material charging operations ) .  
The tower is equipped with internal packaging and use chilled water as treatment medium
- Scrubber tower AB - 203  
This is a scrubber tower which treat gaseous emissions coming from the other acid resistant reaction units .  
The towers is equipped with internal packaging and use a chilled solution of NaOH as treatment medium .
- Recovery vessel and condensation unit  
This system collects all the vents coming from stainless steel reaction units, vacuum pumps and centrifuges .  
After the recovery vessel ( in which some drops eventually present could be separated from the gaseous stream because of the lower speed ) there is a condenser that allows the condensation of the residual solvents still present in the gaseous stream .  
In order to increase the efficiency of this system we have been working on it to install a recirculation pump to spray chilled water on the top of the vessel .

Document n° 4

### **Liquid waste collection and disposal**

The chemical synthesis involving in the manufacturing of active pharmaceutical ingredients are normally carried out in liquid as toluene, methanol , ethylacetate and others, that are used as solvents .

If allowed by the quality of the final product , these solvents are recovered in the plant and reused in the same synthesis.

Otherwise they are collected in two underground tanks or inside drums and disposal outside .

DOCUMENT REFERENCE NUMBER  
008/AMINO

Quantification of Waste Streams and Their Management.

Please see Document 011/Amino entitled Waste Stream Analysis and Disposal Proposals for detailed information.

**DOCUMENT REFERENCE NUMBER**  
**009/AMINO**

**Discharge Substances List I and II**

Amino Chemicals Ltd., confirms that its discharge substances ( or effluent) is being monitored and controlled through our in-house laboratory and since we are exporting all of our effluent to a registered disposal site in Europe, we can confirm that we do not discharge any of the substances pertaining to List I and II of The Marine Mammals Protection Regulations 2002.

**DOCUMENT REFERENCE NUMBER**  
**010 A/AMINO**

**Discharge Substances List I and II**

Amino Chemicals Ltd., confirms that its discharge substances ( or effluent) is being monitored and controlled through our in-house laboratory and since we are exporting all of our effluent to a registered disposal site in Europe, we can confirm that we do not discharge any of the substances pertaining to Schedule A & B of LN 139/ 2002.

DOCUMENT REFERENCE NUMBER  
010 B /AMINO

Discharge to Territorial Waters

Amino Chemicals Ltd., is situated in Marsa and not in the vicinity of coastal waters. Therefore we confirm that Amino does not discharge effluent to coastal waters or territorial waters.