

## Sample Information Report

### Evonik East Africa (Kenya) (63790), Nairobi, Kenya

Lab Customer: Evonik East Africa (Kenya-Nairobi), Nairobi, 56039

Lab code:	NW23-0398048-001	Date of delivery:	2023-05-23	Date of release:	2023-05-23
Material Type:	Complete Feeds	Material:	Fish, Tilapia	Phase:	
Origin Country:	Kenya	Origin Subregion:	-	Origin Province:	-

Description:

Description 1: AminoNIR 1 Fish Meal Sample JKUAT(Fish feed-T150)



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# Analytical Report

## Evonik East Africa (Kenya) (63790), Nairobi, Kenya

Lab Customer: Evonik East Africa (Kenya-Nairobi), Nairobi, 56039

Lab code: NW23-0398048-001

Material: Fish, Tilapia

Description:

### AMINONIR® Prox

Parameter	Content (% as is)	Content (%)*
Dry matter	89.99	
CP **	21.6	21.12
Ether Extract	10.1	9.8
Crude Fibre	5.7	5.5
Crude Ash	11	10.7
Starch	19	18.6
Acid Detergent Fibre (ADF)	8.4	8.2
Neutral Detergent Fibre (NDF)	21.4	20.9
Sugar	4.8	4.7
Phosphorus (mg/kg)	11025	10781

\* DMS: Figures standardized to a dry matter content of 88%, CP = Crude protein, calibration based on Dumas combustion method (CP factor 6.25)

\*\* estimated with separate calibration equation

NIRS calibration equation: pgAQUtI\_200271\_v4



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Dr. I. Reimann



# Analytical Report

**Evonik East Africa (Kenya) (63790), Nairobi, Kenya****Lab Customer:** Evonik East Africa (Kenya-Nairobi), Nairobi, 56039**Lab code:** NW23-0398048-001**Material:** Fish, Tilapia**Description:****AMINONIR® NRG**

Parameter	Content (as is)	Content *
Gross Energy (GE) [MJ/kg]	17.303	16.921
Gross Energy (GE_KCAL) [kcal/kg]	4133	4042

\* DMS: Figures standardized to a dry matter content of 88%



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# Analytical Report

**Evonik East Africa (Kenya) (63790), Nairobi, Kenya**

**Lab Customer:** Evonik East Africa (Kenya-Nairobi), Nairobi, 56039

**Lab code:** NW23-0398048-001

**Material:** Fish, Tilapia

**Description:**

## Results of fatty acid analysis / Total contents after ether extraction

Parameter	Content (in RM)	Content (in Fat)
Myristic acid (C14:0)	0.06	0.601
Pentadecanoic acid (C15:0)	0.008	0.075
Palmitic acid (C16:0)	2.307	22.91
Palmitoleic acid (C16:1n7)	0.046	0.453
Hexadecadienoic acid (C16:2n4)	0.007	0.074
Hexadecatrienoic acid (C16:3n4)	0.003	0.03
Hexadecaenoic acid (C16:4n1)	0.007	0.067
Margaric acid (C17:0)	0.01	0.103
15-Methyl palmitic acid (C17:Iso)	0.008	0.075
Stearic acid (C18:0)	0.369	3.667
Linoleic acid (C18:2n6:cis)	2.314	22.979
Arachidic acid (C20:0)	0.066	0.659
Eicosatrienoic acid (C20:3n6)	0.011	0.114
Eicosatetraenoic acid (C20:4n3)	0.016	0.162
Arachidonic acid (C20:4n6)	0.005	0.051
Behenic acid (C22:0)	0.024	0.241
Erucic acid (C22:1n9)	0.006	0.059
Lignoceric acid (C24:0)	0.033	0.327
Mono-unsaturated Fatty Acids	4.34	43.098
Poly-unsaturated Fatty Acids	2.479	24.621
Saturated acids	3.254	32.321

NIRS calibration equation: fgAQU26\_118471\_v1



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## Sample Information Report

### Evonik East Africa (Kenya) (63790), Nairobi, Kenya

Lab Customer: Evonik East Africa (Kenya-Nairobi), Nairobi, 56039

Lab code:	NW23-0398049-001	Date of delivery:	2023-05-23	Date of release:	2023-05-23
Material Type:	Complete Feeds	Material:	Fish, Tilapia	Phase:	
Origin Country:	Kenya	Origin Subregion:	-	Origin Province:	-

Description:

Description 1: AminoNIR 1 Fish Meal Sample JKUAT(fish feed(T100))



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# Analytical Report

## Evonik East Africa (Kenya) (63790), Nairobi, Kenya

Lab Customer: Evonik East Africa (Kenya-Nairobi), Nairobi, 56039

Lab code: NW23-0398049-001

Material: Fish, Tilapia

Description:

### AMINONIR® Prox

Parameter	Content (% as is)	Content (%)*
Dry matter	89.99	
CP **	22.72	22.22
Ether Extract	8.8	8.6
Crude Fibre	6.9	6.7
Crude Ash	11.1	10.8
Starch	18.7	18.3
Acid Detergent Fibre (ADF)	9.8	9.6
Neutral Detergent Fibre (NDF)	24.7	24.1
Sugar	4.1	4
Phosphorus (mg/kg)	11324	11074

\* DMS: Figures standardized to a dry matter content of 88%, CP = Crude protein, calibration based on Dumas combustion method (CP factor 6.25)

\*\* estimated with separate calibration equation

NIRS calibration equation: pgAQUtI\_200271\_v4



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# Analytical Report

**Evonik East Africa (Kenya) (63790), Nairobi, Kenya****Lab Customer:** Evonik East Africa (Kenya-Nairobi), Nairobi, 56039**Lab code:** NW23-0398049-001**Material:** Fish, Tilapia**Description:****AMINONIR® NRG**

Parameter	Content (as is)	Content *
Gross Energy (GE) [MJ/kg]	17.069	16.693
Gross Energy (GE_KCAL) [kcal/kg]	4077	3987

\* DMS: Figures standardized to a dry matter content of 88%



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# Analytical Report

## Evonik East Africa (Kenya) (63790), Nairobi, Kenya

Lab Customer: Evonik East Africa (Kenya-Nairobi), Nairobi, 56039

Lab code: NW23-0398049-001

Material: Fish, Tilapia

Description:

### Results of fatty acid analysis / Total contents after ether extraction

Parameter	Content (in RM)	Content (in Fat)
Myristic acid (C14:0)	0.059	0.671
Pentadecanoic acid (C15:0)	0.005	0.061
Palmitic acid (C16:0)	2.06	23.305
Palmitoleic acid (C16:1n7)	0.055	0.623
Hexadecadienoic acid (C16:2n4)	0.007	0.078
Hexadecatrienoic acid (C16:3n4)	0.004	0.04
Hexadecaenoic acid (C16:4n1)	0.011	0.119
Margaric acid (C17:0)	0.01	0.117
15-Methyl palmitic acid (C17:Iso)	0.011	0.121
Stearic acid (C18:0)	0.347	3.925
Iso-oleic acid (C18:1:Iso)	0.006	0.072
Oleic acid (C18:1n9)	3.485	39.432
Linoleic acid (C18:2n6:cis)	2.12	23.987
Arachidic acid (C20:0)	0.061	0.691
n6-Eicosadienoic acid (C20:2n6)	0.004	0.041
Eicosatrienoic acid (C20:3n6)	0.009	0.099
Eicosatetraenoic acid (C20:4n3)	0.011	0.119
Arachidonic acid (C20:4n6)	0.007	0.082
Behenic acid (C22:0)	0.021	0.238
Erucic acid (C22:1n9)	0.006	0.063
Lignoceric acid (C24:0)	0.029	0.329
Mono-unsaturated Fatty Acids	3.781	42.788
Poly-unsaturated Fatty Acids	2.155	24.382
Saturated acids	2.954	33.429

NIRS calibration equation: fgAQU26\_118471\_v1



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# Sample Information Report

Evonik East Africa (Kenya) (63790), Nairobi, Kenya

Lab Customer:	Evonik East Africa (Kenya-Nairobi), Nairobi, 56039				
Lab code:	NW23-0398050-001	Date of delivery:	2023-05-23	Date of release:	2023-05-23
Material Type:	Complete Feeds	Material:	Fish, Tilapia	Phase:	
Origin Country:	Kenya	Origin Subregion:	-	Origin Province:	-
Description:					
Description 1:	AminoNIR 1 Fish Meal Sample JKUAT(Fish feed-T75)				



# Analytical Report

## Evonik East Africa (Kenya) (63790), Nairobi, Kenya

Lab Customer: Evonik East Africa (Kenya-Nairobi), Nairobi, 56039

Lab code: NW23-0398050-001

Material: Fish, Tilapia

Description:

### AMINONIR® Prox

Parameter	Content (% as is)	Content (%)*
Dry matter	90.54	
CP **	22.25	21.63
Ether Extract	9.8	9.5
Crude Fibre	5.8	5.7
Crude Ash	11.2	10.9
Starch	18.7	18.2
Acid Detergent Fibre (ADF)	8.5	8.3
Neutral Detergent Fibre (NDF)	22.6	22
Sugar	4.8	4.7
Phosphorus (mg/kg)	10954	10646

\* DMS: Figures standardized to a dry matter content of 88%, CP = Crude protein, calibration based on Dumas combustion method (CP factor 6.25)

\*\* estimated with separate calibration equation

NIRS calibration equation: pgAQUT1\_200271\_v4



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# Analytical Report

## Evonik East Africa (Kenya) (63790), Nairobi, Kenya

Lab Customer: Evonik East Africa (Kenya-Nairobi), Nairobi, 56039

Lab code: NW23-0398050-001

Material: Fish, Tilapia

Description:

### AMINONIR® NRG

Parameter	Content (as is)	Content *
Gross Energy (GE) [MJ/kg]	17.337	16.85
Gross Energy (GE_KCAL) [kcal/kg]	4141	4025

\* DMS: Figures standardized to a dry matter content of 88%



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# Analytical Report

## Evonik East Africa (Kenya) (63790), Nairobi, Kenya

Lab Customer: Evonik East Africa (Kenya-Nairobi), Nairobi, 56039

Lab code: NW23-0398050-001

Material: Fish, Tilapia

Description:

### Results of fatty acid analysis / Total contents after ether extraction

Parameter	Content (in RM)	Content (in Fat)
Myristic acid (C14:0)	0.017	0.172
Pentadecanoic acid (C15:0)	0.004	0.038
Palmitic acid (C16:0)	2.338	23.866
15-Methyl palmitic acid (C17:1so)	0.006	0.056
Stearic acid (C18:0)	0.392	4.001
Linoleic acid (C18:2n6:cis)	2.631	26.854
Arachidic acid (C20:0)	0.063	0.642
Eicosatrienoic acid (C20:3n6)	0.01	0.103
Eicosatetraenoic acid (C20:4n3)	0.014	0.145
Behenic acid (C22:0)	0.026	0.27
Erucic acid (C22:1n9)	0.007	0.068
Lignoceric acid (C24:0)	0.031	0.313
Mono-unsaturated Fatty Acids	4.341	44.311
Poly-unsaturated Fatty Acids	2.482	25.336
Saturated acids	3.172	32.376

NIRS calibration equation: fgAQU26\_118471\_v1



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## Sample Information Report

### Evonik East Africa (Kenya) (63790), Nairobi, Kenya

Lab Customer: Evonik East Africa (Kenya-Nairobi), Nairobi, 56039

Lab code:	NW23-0398051-001	Date of delivery:	2023-05-23	Date of release:	2023-05-23
Material Type:	Complete Feeds	Material:	Fish, Tilapia	Phase:	
Origin Country:	Kenya	Origin Subregion:	-	Origin Province:	-

Description:

Description 1: AminoNIR 1 Fish Meal Sample JKUAT(Fish feed-T0)



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# Analytical Report

## Evonik East Africa (Kenya) (63790), Nairobi, Kenya

Lab Customer: Evonik East Africa (Kenya-Nairobi), Nairobi, 56039

Lab code: NW23-0398051-001

Material: Fish, Tilapia

Description:

### AMINONIR® Prox

Parameter	Content (% as is)	Content (%)*
Dry matter	89.8	
CP **	20.41	20
Ether Extract	9.6	9.4
Crude Fibre	6.4	6.3
Crude Ash	11.1	10.9
Starch	19.7	19.3
Acid Detergent Fibre (ADF)	9.2	9
Neutral Detergent Fibre (NDF)	22.9	22.5
Sugar	4.4	4.3
Phosphorus (mg/kg)	10945	10726

\* DMS: Figures standardized to a dry matter content of 88%, CP = Crude protein, calibration based on Dumas combustion method (CP factor 6.25)

\*\* estimated with separate calibration equation

NIRS calibration equation: pgAQUT1\_200271\_v4



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# Analytical Report

Evonik East Africa (Kenya) (63790), Nairobi, Kenya

Lab Customer: Evonik East Africa (Kenya-Nairobi), Nairobi, 56039  
Lab code: NW23-0398051-001      Material: Fish, Tilapia  
Description:

AMINONIR® NRG

Parameter	Content (as is)	Content *
Gross Energy (GE) [MJ/kg]	17.072	16.73
Gross Energy (GE_KCAL) [kcal/kg]	4078	3996

\* DMS: Figures standardized to a dry matter content of 88%



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# Analytical Report

## Evonik East Africa (Kenya) (63790), Nairobi, Kenya

Lab Customer: Evonik East Africa (Kenya-Nairobi), Nairobi, 56039

Lab code: NW23-0398051-001

Material: Fish, Tilapia

Description:

### Results of fatty acid analysis / Total contents after ether extraction

Parameter	Content (in RM)	Content (in Fat)
Myristic acid (C14:0)	0.039	0.408
Pentadecanoic acid (C15:0)	0.006	0.066
Palmitic acid (C16:0)	2.105	21.89
Palmitoleic acid (C16:1n7)	0.028	0.29
Hexadecadienoic acid (C16:2n4)	0.012	0.121
Hexadecatrienoic acid (C16:3n4)	0.005	0.049
Hexadecaenoic acid (C16:4n1)	0.011	0.113
Margaric acid (C17:0)	0.008	0.086
15-Methyl palmitic acid (C17:Iso)	0.007	0.069
Stearic acid (C18:0)	0.327	3.404
Oleic acid (C18:1n9)	3.612	37.558
Linoleic acid (C18:2n6:cis)	2.515	26.153
Arachidic acid (C20:0)	0.061	0.637
Eicosatrienoic acid (C20:3n6)	0.011	0.111
Eicosatetraenoic acid (C20:4n3)	0.014	0.144
Arachidonic acid (C20:4n6)	0.005	0.051
Behenic acid (C22:0)	0.024	0.252
Erucic acid (C22:1n9)	0.006	0.057
Lignoceric acid (C24:0)	0.031	0.318
Nervonic acid (C24:1n9)	0.004	0.047
Mono-unsaturated Fatty Acids	3.903	40.588
Poly-unsaturated Fatty Acids	2.62	27.252
Saturated acids	2.862	29.764

NIRS calibration equation: fgAQU26\_118471\_v1



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# Sample Information Report

Evonik East Africa (Kenya) (63790), Nairobi, Kenya

Lab Customer:	Evonik East Africa (Kenya-Nairobi), Nairobi, 56039				
Lab code:	NW23-0398052-001	Date of delivery:	2023-05-23	Date of release:	2023-05-23
Material Type:	Complete Feeds	Material:	Fish, Tilapia	Phase:	
Origin Country:	Kenya	Origin Subregion:	-	Origin Province:	-
Description:					
Description 1:	AminoNIR 1 Fish Meal Sample JKUAT(Fish feed-T25)				



# Analytical Report

## Evonik East Africa (Kenya) (63790), Nairobi, Kenya

Lab Customer: Evonik East Africa (Kenya-Nairobi), Nairobi, 56039

Lab code: NW23-0398052-001

Material: Fish, Tilapia

Description:

### AMINONIR® Prox

Parameter	Content (% as is)	Content (%)*
Dry matter	90.6	
CP **	22.4	21.75
Ether Extract	9.7	9.5
Crude Fibre	5.3	5.2
Crude Ash	11.2	10.9
Starch	19.1	18.5
Acid Detergent Fibre (ADF)	8	7.8
Neutral Detergent Fibre (NDF)	22.5	21.9
Sugar	4.6	4.5
Phosphorus (mg/kg)	11157	10837

\* DMS: Figures standardized to a dry matter content of 88%, CP = Crude protein, calibration based on Dumas combustion method (CP factor 6.25)

\*\* estimated with separate calibration equation

NIRS calibration equation: pgAQUtI\_200271\_v4



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# Analytical Report

Evonik East Africa (Kenya) (63790), Nairobi, Kenya

Lab Customer: Evonik East Africa (Kenya-Nairobi), Nairobi, 56039  
Lab code: NW23-0398052-001      Material: Fish, Tilapia  
Description:

AMINONIR® NRG

Parameter	Content (as is)	Content *
Gross Energy (GE) [MJ/kg]	17.34	16.842
Gross Energy (GE_KCAL) [kcal/kg]	4142	4023

\* DMS: Figures standardized to a dry matter content of 88%



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# Analytical Report

## Evonik East Africa (Kenya) (63790), Nairobi, Kenya

Lab Customer: Evonik East Africa (Kenya-Nairobi), Nairobi, 56039

Lab code: NW23-0398052-001

Material: Fish, Tilapia

Description:

### Results of fatty acid analysis / Total contents after ether extraction

Parameter	Content (in RM)	Content (in Fat)
Myristic acid (C14:0)	0.043	0.445
Palmitic acid (C16:0)	2.326	23.862
Palmitoleic acid (C16:1n7)	0.012	0.125
15-Methyl palmitic acid (C17:Iso)	0.006	0.06
Stearic acid (C18:0)	0.394	4.038
Linoleic acid (C18:2n6:cis)	2.415	24.778
Arachidic acid (C20:0)	0.064	0.66
Eicosatrienoic acid (C20:3n6)	0.01	0.108
Eicosatetraenoic acid (C20:4n3)	0.015	0.158
Behenic acid (C22:0)	0.024	0.245
Erucic acid (C22:1n9)	0.006	0.066
Lignoceric acid (C24:0)	0.031	0.319
Mono-unsaturated Fatty Acids	4.378	44.917
Poly-unsaturated Fatty Acids	2.295	23.552
Saturated acids	3.32	34.067

NIRS calibration equation: fgAQU26\_118471\_v1



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