

**ANALYTICAL REPORT**

Report Date : 11-Jun-2024

**Client:**  
**Ubong Sunflower Co., Ltd.**  
299 M.9, T.Nadee, A.Nayear, Ubong Ratchathani, 34160, Thailand

**Eurofins Sample Code** : 965-2024-00004668  
**Sample Name** : Organic Cassava Flour  
UBS Lot 24-032  
**Arrival Temperature (°C)** : 27.3  
**Sample Quantity** : 1 bag (510 g)  
**Sample Condition** : Sample is contained in a plastic bag.  
**Date Of Sample Received** : 22-May-2024  
**Start Of Analysis** : 23-May-2024

End Of Analysis: 28-May-2024

**ANALYTICAL RESULT**

MICROBIOLOGY ANALYSIS		RESULT	UNIT
<b>D7014</b>	<b>Clostridium perfringens</b>		
Method: FDA BAM, 2020 (Chapter 16)			
	Clostridium perfringens	<10	cfu/g
<b>D7061</b>	<b>Coliforms</b>		
Method: FDA BAM, 2020 (Chapter 4)			
	Coliforms	<3	MPN/g

The above test result(s), if relevant, has/have been validated by:

**SIGNATURE**

Nithiwat Yingkitwiwat  
National Multi Business Lines Leader Thailand



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**EXPLANATORY NOTE**

The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

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The result(s) relate(s) only to the sample(s) as received.


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Results have been obtained and reported in accordance with our general sales conditions available on request.

When declaring compliance or non-compliance, the uncertainty associated with the result has been added or subtracted in order to obtain a result that can be compared to regulatory limits or specifications. The uncertainty has not been taken into account for standards that already include measurement uncertainty.

The tests are identified by a five-digit code, their description is available on request.

Eurofins General Terms and Conditions apply.

<input type="checkbox"/>	Test is externally subcontracted.	<b>Est</b>	Estimated count.
#	Test is subcontracted within Eurofins group.	<b>LOD</b>	Limit of Detection.
★	Parameter is accredited with a non ISO/IEC 17025 accredited.	<b>LOQ</b>	Limit of Quantification.
◆	Parameter is not accredited.	<b>&lt;LOQ</b>	Not detected at or below the LOQ.
	Designated method by Department of Livestock Development for livestock product testing.	<b>N/A</b>	Not applicable.

**- END OF REPORT -**

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**Client:**  
**Ubong Sunflower Co., Ltd.**  
 299 M.9, T.Nadee, A.Nayear, Ubong Ratchathani, 34160, Thailand

**Eurofins Sample Code** : 965-2024-00003559  
**Sample Name** : Organic Cassava Flour  
 UBS Lot 24-023  
**Arrival Temperature (°C)** : 28.3  
**Sample Quantity** : 5 bag (2505 g)  
**Sample Condition** : Sample is contained in a plastic bag.  
**Date Of Sample Received** : 26-Apr-2024  
**Start Of Analysis** : 27-Apr-2024

End Of Analysis: 10-May-2024

## ANALYTICAL RESULT

MICROBIOLOGY ANALYSIS		RESULT	UNIT	LOD	LOQ
<b>D7015</b>	<b>Bacillus cereus</b>				
Method: FDA BAM, 2020 (Chapter 14)					
	Bacillus cereus	140	cfu/g	-	-
<b>D7011</b>	<b>Salmonella spp.</b>				
Method: ISO 6579-1:2017/AMD.1:2020					
	Salmonella spp.	Not Detected	/25 g	-	-
<b>D702A</b>	<b>Staphylococcus aureus</b>				
Method: FDA BAM, 2020 (Chapter 12)					
	Staphylococcus aureus	<10	cfu/g	-	-
<b>D702S</b>	<b>Escherichia coli</b>				
Method: FDA BAM, 2020 (Chapter 4)					
	Escherichia coli	<3	MPN/g	-	-
<b>D7KX4</b>	<b>Staphylococcus aureus</b>				
Method: FDA BAM, 2020 (Chapter 12)					
	Staphylococcus aureus	<3	MPN/g	-	-
<b>D7055</b>	<b>Escherichia coli</b>				
Method: FDA BAM, 2020 (Chapter 4)					
	Escherichia coli	Not Detected	/g	-	-
<b>D7060</b>	<b>Coliforms</b>				
Method: FDA BAM, 2020 (Chapter 4)					
	Coliforms	<10	cfu/g	-	-
<b>D7070</b>	<b>Aerobic Plate Count</b>				
Method: FDA BAM, 2020 (Chapter 3)					
	Aerobic Plate Count	36,000	cfu/g	-	-



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CHEMISTRY ANALYSIS		RESULT	UNIT	LOD	LOQ
<b>D7093</b>	<b>Total Fat</b>				
Method: AOAC (2023) 922.06					
	Total fat	0.55	g/100 g	-	-
SUBCONTRACTED ANALYSIS		RESULT	UNIT	LOD	LOQ
<b>D70Y0</b>	<input type="checkbox"/> <b>Conductivity</b>				
Method: Internal Method (Conductometry)					
◆	Conductivity	91	μS/cm	-	-
<b>D70Y2</b>	<input type="checkbox"/> <b>Whiteness</b>				
Method: JIS Z 8722					
◆	Whiteness	75.8	%	-	-
<b>D70Y4</b>	<input type="checkbox"/> <b>Starch</b>				
Method: Commission Regulation (EC) No.152/2009					
◆	Starch	87.11	%	-	-
<b>D70Y8</b>	<input type="checkbox"/> <b>Fineness 100 Mesh</b>				
Method: AACC Method 66-20					
◆	Fineness 60 Mesh	99.36	%	-	-
<b>D70Z1</b>	<input type="checkbox"/> <b>Viscosity (Cold Peak)</b>				
Method: ICC Standard No.169 (2000)					
◆	Viscosity (Cold Peak) (6% Solution)	750	BU	-	-
<b>D7SUB</b>	<input type="checkbox"/> <b>External Subcontracted Tests</b>				
Method: AOAC (2023) 991.14.					
	Escherichia coli	<10 est.	cfu/g	-	-
<b>JCMEM #</b>	<b>Mineral oil (MOSH, POSH, MOAH)</b>				
Method: Internal Method					
	MOSH/POSH (saturated, short chain) C10-16	<0.60	mg/kg	-	0.6
	MOSH/POSH (saturated, medium chain) C16-20	<0.60	mg/kg	-	0.6
	MOSH/POSH (saturated, longer chain) C20-25	<0.60	mg/kg	-	0.6
	MOSH/POSH (saturated, longer chain) C25-35	<0.60	mg/kg	-	0.6
	MOSH/POSH (saturated, longer chain) C35-40	<0.60	mg/kg	-	0.6
	MOSH/POSH (saturated, longer chain) C40-50	<0.60	mg/kg	-	0.6
	MOSH/POSH C10-50	<0.60	mg/kg	-	0.6
	MOSH/POSH detected in the range of	-	-	-	-
	MOAH (aromatic) C10-16	<0.15	mg/kg	-	0.15
	MOAH (aromatic) C16-25	<0.15	mg/kg	-	0.15
	MOAH (aromatic) C25-35	<0.15	mg/kg	-	0.15
	MOAH (aromatic) C35-50	<0.15	mg/kg	-	0.15
	MOAH C10-50	<0.15	mg/kg	-	0.15



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## SUBCONTRACTED ANALYSIS

## RESULT

## UNIT

## LOD

## LOQ

### JCMEM # Mineral oil (MOSH, POSH, MOAH)

Method: Internal Method

MOAH detected in the range of

-

-

-

-

### VD0XX # Heavy metal as Pb

Method: Internal method

♦ Heavy metal as Pb

Not Detected

mg/kg

2.5

7.5

### VD855 # Cadmium (Cd)

Method: AOAC 2015.01

Cadmium (Cd)

Not Detected

mg/kg

0.01

0.03

### VD856 # Arsenic (As)

Method: AOAC 2015.01

Arsenic (As)

Not Detected

mg/kg

0.01

0.03

### VD857 # Mercury (Hg)

Method: AOAC 2015.01

Mercury (Hg)

Not Detected

mg/kg

0.007

0.02

### VD861 # Lead (Pb)

Method: AOAC 2015.01

Lead (Pb)

0.07

mg/kg

0.017

0.05

### VD887 # Tin (Sn)

Method: Internal method

Tin (Sn)

Not Detected

mg/kg

0.1

0.3

### VD889 # Copper (Cu)

Method: Internal method

Copper (Cu)

Not Detected

mg/kg

0.5

1.5

### VD0GB # Enumeration of total yeast and mold

Method: FDA-BAM Chapter 18 (2001)

Total yeast and mold

200

cfu/g

-

-

### VD443 # Enumeration of total yeast

Method: TCVN 8275-2:2010 (ISO 21527-2:2008)

Yeast

&lt;10

cfu/g

-

-

### VD445 # Enumeration of total mold

Method: TCVN 8275-2:2010 (ISO 21527-2:2008)

Moulds

200

cfu/g

-

-

### VD063 # Ochratoxin A

Method: Internal method



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## SUBCONTRACTED ANALYSIS

## RESULT

## UNIT

## LOD

## LOQ

### VD063 # Ochratoxin A

Method: Internal method

Ochratoxin A

Not Detected

µg/kg

0.5

1.5

### VD821 # Aflatoxin B1 + Total

Method: Internal method

Aflatoxin B1

Not Detected

µg/kg

0.5

1.5

Aflatoxins total (B1, B2, G1, G2)

Not Detected

µg/kg

0.5

1.5

### VDA04 # Detection of modified gene (35S, ABII, tNOS)

Method: Internal method

Qualitative GMO: Agroborder II (AB II) (LOD=0.01%)

Not Detected

-

-

-

Qualitative GMO: CAMV 35S promoter (35S) (LOD=0.01%)

Not Detected

-

-

-

Qualitative GMO: Terminator NOS (tNOS) (LOD=0.01%)

Not Detected

-

-

-

### VD1ZT # Peanut allergen (ELISA)

Method: Internal method

Peanut

Not Detected

mg/kg

0.15

2.5

### VD3VA # Malathion

Method: EN 15662:2018

Malathion

Not Detected

mg/kg

0.003

0.01

### VDMM4 # Gluten Allergen (Elisa)

Method: Internal method

Gluten

Not Detected

mg/kg

1.56

3

### VD41R # Malathion (sum of malathion and malaoxon expressed as malathion)

Method: EN 15662:2018

♦ Malathion (sum of malathion and malaoxon expressed as malathion)

Not Detected

mg/kg

0.003

0.01

### VD36H # Ethylene Oxide and 2-Chloroethanol

Method: Internal method

2-chloroethanol

Not Detected

mg/kg

0.003

0.01

Ethylene oxide

Not Detected

mg/kg

0.003

0.01

Ethylene oxide (sum of ethylene oxide and 2-chloro-ethanol expressed as ethylene oxide)

Not Detected

mg/kg

0.003

0.01

### VD290 # Sulfur dioxide (SO2) (AOAC 990.28)

Method: AOAC 990.28

Sulphur dioxide (SO2)

Not Detected

mg/kg

3

10

### VD263 # Protein

Method: TCVN 10034:2013 (ISO 1871:2009)

Protein

0.36

g/100 g

0.1

0.3



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## SUBCONTRACTED ANALYSIS

## RESULT

## UNIT

## LOD

## LOQ

### VD297 # Total Ash

Method: Internal method

Ash

0.38

g/100 g

0.05

0.2

### VD210 # Moisture

Method: Internal method

Moisture

8.30

%

0.01

0.03

### VD157 # Dietary fiber

Method: AOAC 991.43

Dietary fiber

6.13

g/100 g

0.05

0.2

### VD242 # pH

Method: TCVN 7806:2007 (ISO 1842:1991)

pH

5.63

-

-

-

### VD3AE # Chlorate

Method: Internal method

Chlorate

Traces  
(<0.01)

mg/kg

0.003

0.01

### VD21W # Glyphosate

Method: Internal method

Glyphosate

Not Detected

mg/kg

0.003

0.01

### VD651 # Hydrogen cyanide

Method: TCVN 8763:2012

◆ Hydrogen cyanide (HCN)

Not Detected

mg/kg

2

6

### VDWR6 # Hydrogen peroxide (H2O2) (Food)

Method: Internal method

Hydrogen peroxide

Not Detected

mg/kg

1

3

### VD152 # Crude fiber

Method: TCVN 5103:1990 (ISO 5498:1981)

Crude Fiber

2.38

%

0.02

0.06

### VEA20 # Paraquat (3 items)

Method: QuPPE-PO-Method Version 12.1 (2023); QuPPE-AO-Method Version 3.2 (2019)

Paraquat

Not Detected

mg/kg

0.01

0.03

Paraquat dichloride (calc. from Paraquat)

Not Detected

mg/kg

0.01

0.03

Paraquat methosulfate (calc. from Paraquat)

Not Detected

mg/kg

0.01

0.03

### VD656 # Organochlorine pesticides

Method: EN 15662:2018

Screened pesticides (organochlorine) (GC-MS)

Not Detected

-

-

-



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## SUBCONTRACTED ANALYSIS

## RESULT

## UNIT

## LOD

## LOQ

### VD659 # Organophosphate pesticides

Method: EN 15662:2018

Screened pesticides (organophosphate) (GC-MS)

Not Detected

-

-

-

### VD661 # Pyrethroid pesticides

Method: EN 15662:2018

Screened pesticides (Pyrethroid) (LC-MS)

Not Detected

-

-

-

### VD662 # Carbamate pesticides

Method: EN 15662:2018

Screened pesticides (Carbamate) (LC-MS/MS)

Not Detected

-

-

-

### VDGR5 # Other pesticides\_not 4 group

Method: EN 15662:2018

Screened pesticides (non 4 groups) (LC-MS)

Not Detected

-

-

-

#### List of screened molecules

#### VD656 VD Organochlorine pesticides (mg/kg)

MOLECULE	LOD	LOQ	MOLECULE	LOD	LOQ	MOLECULE	LOD	LOQ	MOLECULE	LOD	LOQ
Aldrin	0.003	0.01	Chlordane (total)	0.003	0.01	Chlorfenapyr	0.003	0.01	DDD, o,p-	0.003	0.01
DDD, p,p-	0.003	0.01	DDE, o,p-	0.003	0.01	DDE, p,p'-	0.003	0.01	DDT, o,p'-	0.003	0.01
DDT, p,p-	0.003	0.01	Dicofol, o,p-	0.003	0.01	Dicofol, p,p-	0.003	0.01	Dieldrin	0.003	0.01
Endosulfan alpha	0.003	0.01	Endosulfan sulfate	0.003	0.01	Endosulfan, beta-	0.003	0.01	Endrin	0.003	0.01
HCH, alpha-	0.003	0.01	HCH, beta-	0.003	0.01	HCH, delta-	0.003	0.01	HCH, epsilon-	0.003	0.01
HCH, gamma - Lindane	0.003	0.01	Heptachlor	0.003	0.01	Heptachlor epoxide, cis-	0.003	0.01	Heptachlor epoxide, trans-	0.003	0.01
Hexachlorobenzene (HCB)	0.003	0.01	Methoxychlor	0.003	0.01	Nitrofen	0.003	0.01	Quintozene	0.003	0.01
Tecnazene	0.003	0.01									

#### VD659 VD Organophosphate pesticides (mg/kg)

MOLECULE	LOD	LOQ	MOLECULE	LOD	LOQ	MOLECULE	LOD	LOQ	MOLECULE	LOD	LOQ
Acephate	0.003	0.01	Azinphos-methyl	0.003	0.01	Cadusafos	0.003	0.01	Chlorpyrifos (-ethyl)	0.003	0.01
Chlorpyrifos-methyl	0.003	0.01	Diazinon	0.003	0.01	Dimethoate	0.003	0.01	Disulfoton	0.003	0.01
Ethion	0.003	0.01	Ethoprophos	0.003	0.01	Fenamiphos	0.003	0.01	Fenamiphos-sulfone	0.003	0.01
Fenamiphos-sulfoxide	0.003	0.01	Fenthion	0.003	0.01	Fenthion-sulfone	0.003	0.01	Fenthion-sulfoxide	0.003	0.01
Methacrifos	0.003	0.01	Methamidophos	0.003	0.01	Monocrotophos	0.003	0.01	Omethoate	0.003	0.01
Parathion-methyl	0.003	0.01	Phorate	0.003	0.01	Phorate-sulfone	0.003	0.01	Phorate-sulfoxide	0.003	0.01
Phosalone	0.003	0.01	Pirimiphos-methyl	0.003	0.01	Profenofos	0.003	0.01	Triazophos	0.003	0.01

#### VD661 VD Pyrethroid pesticides (mg/kg)

MOLECULE	LOD	LOQ	MOLECULE	LOD	LOQ	MOLECULE	LOD	LOQ	MOLECULE	LOD	LOQ
Acrinathrin	0.003	0.01	Cypermethrin (sum of isomers)	0.005	0.01	Permethrin (sum isomers)	0.003	0.01	Pyrethrin II	0.003	0.01
Resmethrin	0.003	0.01									

#### VD662 VD Carbamate pesticides (mg/kg)

MOLECULE	LOD	LOQ	MOLECULE	LOD	LOQ	MOLECULE	LOD	LOQ	MOLECULE	LOD	LOQ
3-Hydroxycarbofuran	0.003	0.01	Aldicarb	0.003	0.01	Aldicarb-sulfone	0.003	0.01	Carbaryl	0.003	0.01
Carbetamide	0.003	0.01	Carbofuran	0.003	0.01	Chlorpropham	0.003	0.01	Diethofencarb	0.003	0.01
Fenoxycarb	0.003	0.01	Iprovalicarb	0.003	0.01	Methiocarb	0.003	0.01	Methiocarb-sulfoxide	0.003	0.01
Methomyl	0.003	0.01	Oxamyl	0.003	0.01	Pirimicarb	0.003	0.01	Propamocarb (sum)	0.003	0.01
Propham	0.003	0.01	Propoxur	0.003	0.01	Prosulfocarb	0.003	0.01	Thiodicarb	0.003	0.01

#### VDGR5 VD Other pesticides\_not 4 group (mg/kg)

MOLECULE	LOD	LOQ	MOLECULE	LOD	LOQ	MOLECULE	LOD	LOQ	MOLECULE	LOD	LOQ
Acetamidiprid	0.003	0.01	Atrazin	0.003	0.01	Avermectin B1a	0.003	0.01	Azoxystrobin	0.003	0.01
Benalaxyl	0.003	0.01	Bentazone	0.003	0.01	Bifenazat	0.003	0.01	Bromuconazole	0.003	0.01
Bupirimate	0.003	0.01	Buprofezin	0.003	0.01	Carbendazim	0.003	0.01	Carboxin	0.003	0.01
Carfentazone-ethyl	0.003	0.01	CHLORANTRANILIPROLE	0.003	0.01	Chloridazon	0.003	0.01	Chlorotoluron	0.003	0.01
Chloroxuron	0.003	0.01	Clethodim	0.003	0.01	Clomazone	0.003	0.01	Clothianidin	0.003	0.01
Cyantraniliprole	0.003	0.01	Cyazofamid	0.003	0.01	Cyproconazole	0.003	0.01	Cyprodinil	0.003	0.01
Cyromazine	0.003	0.01	Dazomet	0.003	0.01	Diafenthiuron	0.003	0.01	Diallate	0.003	0.01
Difenoconazole	0.003	0.01	Diflubenzuron	0.003	0.01	Diflufenican	0.003	0.01			





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VDGR5	VD	Other pesticides_not 4 group (mg/kg)											
	MOLECULE	LOD	LOQ	MOLECULE	LOD	LOQ	MOLECULE	LOD	LOQ	MOLECULE	LOD	LOQ	
	Dimethenamid including sum of isomers	0.003	0.01	Dimethomorph (sum of isomers)	0.003	0.01	Dimoxystrobin	0.003	0.01	Diniconazole	0.003	0.01	
	Dinotefuran	0.003	0.01	Diphenylamine	0.003	0.01	Disulfoton-sulfon	0.003	0.01	Emamectin (B1a + B1b)	0.003	0.01	
	Emamectin, benzoate-	0.003	0.01	Epoxiconazole	0.003	0.01	Ethoxyquin	0.003	0.01	Fenbuconazole	0.003	0.01	
	Fipronil	0.002	0.005	Flonicamid	0.003	0.01	Fluazinam	0.003	0.01	Fludioxonil	0.003	0.01	
	Flufenacet	0.003	0.01	Hexaconazole	0.003	0.01	Imidacloprid	0.003	0.01	Indoxacarb (sum, R+S isomers)	0.003	0.01	
	Isoprothiolane	0.003	0.01	Malaoxon	0.003	0.01	Metaflumizone	0.003	0.01	Metalaxyl/Metalaxyl-M (sum)	0.003	0.01	
	Metconazole (sum of isomers)	0.003	0.01	Metolachlor (sum)	0.003	0.01	Penconazole (sum of constituent isomers)	0.003	0.01	Prochloraz	0.003	0.01	
	Propaquizafop	0.003	0.01	Propargite	0.003	0.01	Propiconazole (sum of isomers)	0.003	0.01	Propyzamid	0.003	0.01	
	Pymetrozine	0.003	0.01	Pyraclostrobin	0.003	0.01	Tebuconazol	0.003	0.01	Tetraconazole	0.003	0.01	
	Thiabendazole	0.003	0.01	Thiobencarb	0.003	0.01	Tricyclazol	0.003	0.01	Zoxamid	0.003	0.01	

The above test result(s), if relevant, has/have been validated by:

SIGNATURE



Nithiwat Yingkitwiwat

National Multi Business Lines Leader Thailand

## EXPLANATORY NOTE

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- ★ Parameter is accredited with a non ISO/IEC 17025 accredited.
- ◆ Parameter is not accredited.
- (DLD) Designated method by Department of Livestock Development for livestock product testing.

- Est Estimated count.
- LOD Limit of Detection.
- LOQ Limit of Quantification.
- <LOQ Not detected at or below the LOQ.
- N/A Not applicable.

- END OF REPORT -

