

Gracefruit Ltd  
 209 Glasgow Road  
 Longcroft  
 Bonnybridge  
 FK4 1QQ

## CERTIFICATE OF ANALYSIS

**PRODUCT NAME: BORAGE OIL (19% GLA), REFINED**

**LOT NUMBER: LOT0000756**

PRODUCT INCI: BORAGE OFFICINALIS OIL

PRODUCT CODE: K0075

CAS NUMBER: 225234-12-8

EINECS NUMBER: 281-661-4

MANUFACTURING METHOD: EXPPELLER PRESSED, REFINED

MANUFACTURING DATE: 09/07/2018

BEST BEFORE DATE: 09/07/2020

ANALYTICAL DETAILS	RANGE %	RESULTS
APPEARANCE	OILY LIQUID	-
ODOUR	ODOURLESS	-
COLOUR	CLEAR - LIGHT YELLOW	-
COLOUR LOVIBOND (GARDNER)	< 7.0	1.7
REFRACTIVE INDEX @ 20°C	1.465 – 1.485	1.4757
SPECIFIC GRAVITY @ 20°C	0.910 – 0.925	0.9189
PEROXIDE VALUE (MEQ O <sub>2</sub> / KG)	<10.0	0.2
IODINE VALUE	129 - 150	137.1
ACID VALUE	<1.0	0.11
SAPONIFICATION VALUE (MG KOH/GR)	185.0 – 195.0	190.5
UNSAAPONIFIABLE MATTER	<1.5	0.66
ANISDINE VALUE	<15.0	1.3
TOTOX VALUE	<20.0	1.7

FATTY ACID PROFILE		RANGE %	RESULTS
<b>C-CHAIN</b>	<b>ACID NAME</b>		
C16:0	PALMITIC	5.0 – 12.0	9.9
C16:1	PALMITOLEIC	<0.6	0.3
C18:0	STEARIC	1.0 – 5.5	5.2
C18:1	OLEIC	5.0 – 20.0	19.4
C18:2	LINOLEIC	35.0 – 40.0	36.5
C18:3	ALPHA LINOLENIC	<1.0	0.2
C18:3	GAMMA LINOLENIC	>19.0	19.0
C20:0	ARACHIDIC ACID	<0.5	0.3
C20:1	EICOSENOIC ACID	3.0 – 5.0	4.1

C22:1	ERUCIC ACID	1.0 – 3.0	2.6
C24:0	LIGNOCERIC ACID	1.0 – 2.0	1

FREE FROM TESTS	
APRICOT & PEACH KERNEL OIL	PASS
SESAME SEED OIL	PASS
COTTONSEED OIL	PASS
ARACHIS OIL	PASS
MINERAL OIL	PASS
FOREIGN OILS	PASS