CERTIFICATE OF ANALYSIS
REFINED SAFFLOWER OIL

Product: Safflower
Batch Number: 434946
Best Before End: January 2021

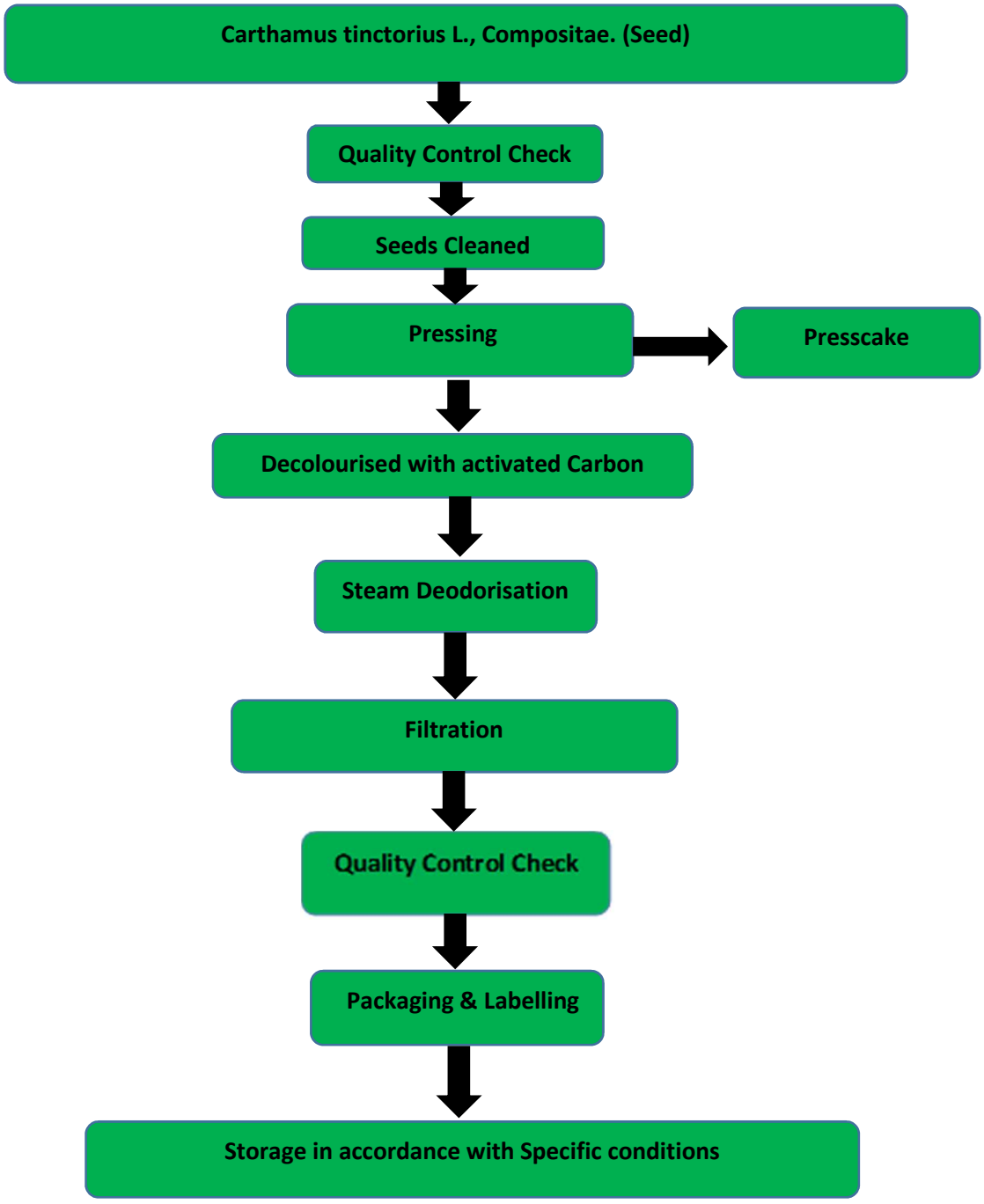
Description: A yellow liquid with a typical odour & taste

TEST	SPECIFICATION	ANALYSIS
Free Fatty Acid (% as Oleic)	0.5 maximum	0.07
Peroxide Value meq O_2/kg	2.0% maximum	0.60
Iodine Value	120 - 135	134.5
Saponification Value	180 - 195	192.5
Colour Lovibond 5.25" Cell	50.0 Yellow maximum	4.8
	5.0 Red maximum	0.7
Unsaponifiable Matter	1.5 maximum	< 1.5
Relative Density @ 20°C	0.912 – 0.930	Complies
Refractive Index	1.472 – 1.476	1.473

FATTY ACID COMPOSITION (%)		
C16:0 Palmitic Acid	5.0 – 8.0	6.72
C18:0 Stearic Acid	2.5 – 7.0	3.15
C18:1 Oleic Acid	20 – 40	28.96
C18:2 Linoleic Acid	50 - 74	59.89
C18:3 Alpha Linolenic Acid	0.5 maximum	0.06

Manufacturing Flow Chart

Product Name	**Safflower Oil**
Date	**01.11.2016**



GMO Statement

PRODUCT NAME: Safflower Oil, Refined

MADAR Corporation Limited can confirm that the above listed product is GMO Free.

06/03/2019

MATERIAL SAFETY DATA SHEET

01. IDENTIFICATION OF THE SUBSTANCE/MIXTURE & OF THE COMPANY/UNDERTAKING

1:1-Product Identifiers:					
Product name	**Safflower Seed Oil WHC075**				
Biological Definition	Carthamus Tinctorius Seed Oil is the oily liquid obtained from the seeds of Safflower, Carthamus tinctorius L., Compositae. It consists principally of the triglycerides of linoleic acid				
INCI Name	Carthamus Tinctorius Seed Oil				
Synonyms & Trade Names	Safflower Oil				
Reach Registration Number	Exempt from registration ex Annex V.9				
FEMA No.	-	FDA No.	-	CoE No.	-
CAS-No	8001-23-8	EC No.	232-276-5	EINECS No.	232-276-5

1:2 – Relevant Identified Uses of the substance or mixture and uses advised against:	
Identified Uses	Cosmetic raw material
1:3 – Details of the supplier of the Safety data sheets.	
Company Name	**MADAR Corporation Limited** **19 - 20 Sandleheath Industrial Estate, Fordingbridge, Hampshire SP6 1PA** **Email: technical@madarcorporation.co.uk** **Tel: 01425 655555**
1:4 – Emergency Telephone number	
Contact telephone number	01425 655555

02. HAZARDS IDENTIFICATION

2:1 Classification of the substance or mixture	
Classification (1999/45)	Not classed as hazardous
Classification (EC 1272/2008)	Not classed as hazardous
2.2 – Label Elements	
Label Elements in accordance with (EC) No 1272/2008	Not required
2:3 - Other hazards	
Signal Word	None

Contains	None
Hazard Statements	None
Precautionary Statements	None
Supplementary Precautionary Statements	None
PBT or vPvB according to Annex XIII	No
Adverse physio-chemical properties	None
Adverse effects on human health	Prolonged contact especially if accompanied by poor personal hygiene, can cause skin redness, irritation and contact dermatitis.

03. COMPOSITION/INFORMATION ON INGREDIENTS

3:1 - Substances	
Substances	100% Safflower Seed Oil.
3:2 - Mixtures	
Mixtures	100% Safflower Seed Oil.

04. FIRST AID MEASURES

4:1 – Description of first aid measures	
General Advice	Industrial field: in case of an accident of pressurized industrial pipes, any chemical substance can be accidentally absorbed by the skin, even without external damage. In this event it is necessary to carry the injured person to a first aid centre for medical advice. General advice: Remove contaminated soaked clothing and dispose of safely.
Inhalation	In particular conditions, in presence of high concentration of vapours, aerate with fresh air. If symptoms persist or in all cases of doubt seek medical advice.
Ingestion	Do not induce vomiting without medical advice. Seek medical advice.
Skin Contact	If necessary, remove contaminated clothing. Wash off with soap and plenty of water.
Eye Contact	Rinse with plenty of water. If necessary remove contact lenses. In all cases of doubt seek medical advice.

4:2 – Most important symptoms and effects, both acute and delayed	
Symptoms and effects	None Relevant
4:3 – Indication of any immediate medical attention and special treatment needed	
Special requirements	Notes to physician: treat symptomatically.

05. FIRE-FIGHTING MEASURES

5:1 - Extinguishing Media	
Suitable extinguishing Media	In case of fire, use water spray (fog), foam, dry chemical, or CO2.
Unsuitable extinguishing Media-DO NOT USE	Do not use direct water jet.
5:2 - Special Hazards arising from substance or mixture	
Specific hazards	Under conditions giving incomplete combustion, hazardous gases produced may consist of: Carbon monoxide (CO) carbon dioxide (CO2). Combustion gases of organic materials must in principle be graded as inhalation poisons. Combustion produces caustic fumes. Vapours are heavier than air and may spread along floors
5:3 – Advice for firefighters	
Special firefighting procedures/ protective actions	Cool containers / tanks with water spray. Dike and collect water used to fight fire. Keep people away from and upwind of fire.

06. ACCIDENTAL RELEASE MEASURES

6:1 - Personal Precautions, protective equipment and emergency procedures.	
Personal precautions	For emergency responders see section 8
6:2 - Environmental Precautions	
Environmental Precautions	Prevent further leakage or spillage. Do not discharge product into the aquatic environment without pre-treatment.

6:3 – Methods and materials for containment and cleaning up	
Spill Clean Up Methods	Stop the flow of material, if possible. Dike spilled material, where this is possible. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Dispose of in accordance with local regulations. If liquid has been spilt in large quantities clean up promptly by scoop or vacuum. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
6:4 – Reference to other sections	
Reference to other sections	See section 8 for personal protective equipment and section 13 for waste disposal.

07. HANDLING AND STORAGE

7:1 – Precautions for safe handling	
Usage precautions	Avoid contact with skin, eyes and clothing. Wash hands before breaks and after handling the product. Provide sufficient air exchange and/or exhaust in work rooms
7:2 – Conditions for safe Storage including any incompatibilities	
Storage Precautions	In a cool dry room avoiding exposure to heat and light keep away from sources of ignition - no smoking. Keep containers tightly closed, avoid direct sunlight. Handle open containers with care. Incompatible products: strong oxidising agents, strong bases, strong acids.
Suitable Packaging	No data available
7:3 – Specific end use (s)	
End Uses	No further information available

08. EXPOSURE CONTROLS/PERSONAL PROTECTION

8:1 – Control parameters	
Protective Equipment	
Components with workplace control parameters	The product is not classified, no control measures are to be mentioned.

8:2 – Exposure controls	
Engineering Measures	General or dilution ventilation is frequently insufficient as the sole means of controlling employee exposure. Local ventilation is usually preferred.
Respiratory Equipment	Do not breathe vapours or spray mist.
Hand Protection	Wear protective rubber gloves. Wear protective gloves. Other protective material may be used, depending on the situation, if adequate degradation and permeation data is available. If other chemicals are used in conjunction with this substance, material selection should be based on protection for all substances. Suitable material: nitrile rubber.
Eye Protection	Use safety googles.
Other Protection	Avoid contact of chemicals with skin, eyes and clothing. Do not breathe vapours or spray mist. Ensure that eyewash stations and safety showers are close to the workstation location.
Hygiene Measures	Wash your hands before going to toilet. Do not clean hands with dirty or greasy tissues. Change your clothes if they are soaked, and in any event after work. Wash skin with soap and water, do not use solvents or strong degreasing agents.

09. PHYSICAL AND CHEMICAL PROPERTIES

9:1 - Information on basic physical and chemical properties.	
Appearance	Liquid
Colour	Yellow
Odour	Not available
Relative Density	0.912 - 0.930 g/mL (20°C)
Flash Point (°C)	>300 °C (open cup)
Refractive Index	Not available
Melting Point (°C)	<-15 °C
Boiling Point (°C)	Not available
Vapour Pressure	Not available
Solubility in Water @20°C	Not Soluble
Auto-ignition temperature (°C)	Not available
9:2 - Other information	
Other Information	Not available

MATERIAL SAFETY DATA SHEET

10. STABILITY AND REACTIVITY

10:1- Reactivity	
Reactivity	Stable under recommended storage conditions and normal usage conditions.
10:2 - Chemical stability	
Stability	Stable under recommended storage conditions and normal usage conditions.
10:3 - Possibility of hazardous reactions	
Possible hazardous reactions	Non known under recommended storage conditions and normal usage conditions.
10:4 - Conditions to avoid	
Conditions to Avoid	Non known
10:5 – Incompatible materials	
Incompatible materials	Avoid strong oxidising agents, strong bases, strong acids.
10:6 - Hazardous Decomposition Products	
Hazardous Decomposition Products	Hazardous decomposition products formed under fire conditions: carbon monoxide (CO) carbon dioxide (CO_2), toxic gases / vapours.

11. TOXOLOGICAL INFORMATION

11:1 Information on toxicological effects	
Acute Toxicity	The product is not classified as hazardous for human health, no toxicological effects are to be mentioned.

12. ECOLOGICAL INFORMATION

12:1- Toxicity	
Ecotoxicity	The product is not classified as hazardous for the environment. However, use according to good working practice and do not release it to the environment.
12:2 - Persistence & degradability	
Persistence & degradability	Biodegradable product. During natural decomposition no dangerous products are developed. However, use according to good working practice and do not release it to the environment.

12:3 - Bioaccumulative Potential	
Bioaccumulative Potential	Not bio accumulative.
12:4 – Mobility in soil	
Mobility	Not available
12:5 – Results of PBT and vPvB assessment	
PBT Assessment Results	No PBT and no vPvB
12:6 Other adverse effects	
Precautions	Do not discharge into the environment especially into watercourses, sewers and the sea

13. DISPOSAL CONSIDERATIONS

13:1 Waste treatment methods	
Disposal Methods	Product / Packaging disposal: dispose of in accordance with local regulations. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.

14. TRANSPORT INFORMATION

Warning Icon	Not dangerous goods according to transport legislation

15. REGULATORY INFORMATION

15:1 – Safety, health and environmental regulations/ legislation specific for the substance or mixture.	
EU Directives	Commission Regulation (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18th Dec 2006 Concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 199/45/EC and repealing Council Regulation Council Regulation (EEC) No793/93 and Commission Regulation (EC) No1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, and 93/105/EEC and 2000/21/EC including amendments.

MATERIAL SAFETY DATA SHEET

Statutory Instruments	The Chemicals (Hazard Information and Packaging for Supply Regulations 2009 (S.I. 2009 No 716).
Approved Code of Practice	Classification and Labelling of Substances and Preparations Dangerous for Supply. Safety Data Sheets for Substances and Preparations
Guidance Notes	Workplace Exposure Limits EH40. CHIP for everyone HSG 108.
15:2 Chemical Safety assessment	
Assessment information	For this product a chemical safety assessment was not carried out.

16. OTHER INFORMATION

Revision Date	05.05.2016
Rev No/Repl, SDS Generated	6
Change Description	Updated to new MSDS
Changes made by	K Tatton
Review Date	05.05.2018
Risk Phrases in Full	None
Hazard Statements in Full	None
Other Information	None

DISCLAIMER: This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.

MATERIAL SAFETY DATA SHEET

EC Feed Hygiene Registration No: GB/703/E3008

Specification Sheet

Product Name:	**Refined Safflower Oil (WHC075)-042a**

INCI Name:	**Carthamus Tinctorius Seed Oil**
CAS No:	**8001-23-8**
EC No:	**232-276-5**
REACH:	**Exempt according to Annex V, paragraph 9**
Company Name:	MADAR Corporation Limited 19 - 20 Sandleheath Industrial Estate Fordingbrdige Hampshire SP6 1PA
Telephone Number:	01425 655555
E-Mail Address:	technical"madarcorporation.co.uk
Description:	A yellow liquid with a typical odour and taste. Cold pressed from the seeds of Carthamus Tinctorius and further refined.
Application:	Cosmetic applications
Origin:	Italy, Spain, France, South America or USA

TYPICAL ANALYTICAL CHARACTERISTICS:

Acid Value (mg KOH/g):	0.5 maximum
Peroxide Value meqO2/kg oil:	2.0% maximum
Refractive Index ASTM1248-92:	1.472 – 1.476
Colour Lovibond 5.25" Cell:	50 Yellow maximum 5.0 Red maximum
Iodine Value g I^2/100:	120 – 135
Saponification Value (mg KOH/g):	180 – 195
Unsaponifiable matter:	1.5% maximum
Relative Density @ 20°C:	0.915 – 0.925 g/cm³
Cloud Point:	-10°C
Pour Point:	-15°C
Flash Point:	>300°C (open cup)
Solubility:	Insoluble in water
Melting Point/freezing point:	<-15°C
Shelf Life:	Recommend user re-tests after 12 months storage.
Storage:	In original tightly sealed container away from heat and light.

Specification Sheet

TYPICAL FATTY ACID PROFILE % GLC:

C16:0	PALMITIC ACID:	5 - 8
C16:1	PALMITOLEIC ACID:	0.5 maximum
C18:0	STEARIC ACID:	2.5 – 7.0
C18:1	OLEIC ACID:	20 - 40
C18:2	LINOLEIC ACID:	50 - 74
C18:3	ALPHA LINOLENIC ACID:	0.5 maximum
C20:0	ARACHIDIC ACID:	0.5 maximum
C20:1	EICOSENOIC ACID:	0.5 maximum
C22:0	BEHENIC ACID:	1.0 maximum

DISCLAIMER:

The information contained herein is accurate to the best of our knowledge. No liability can be accepted arising out of the use, application or processing of this material. It is the Users responsibility to determine safe conditions for the use of this product. As this is a wholly natural material some parameters may differ due to natural variation and climate change.

Date of First Issue: 06.01.2005
Re-Issued: 17.09.2008
12.12.2012
19.06.2013
12.01.2014

Vegetarian & Vegan Suitability Statement

PRODUCT NAME: Safflower Oil Refined

MADAR Corporation Limited can confirm that the above listed product has not been tested in animals and does not contain dairy or any other animal product, by product or derivative and is therefore suitable for vegetarian and vegan use.

28/06/19