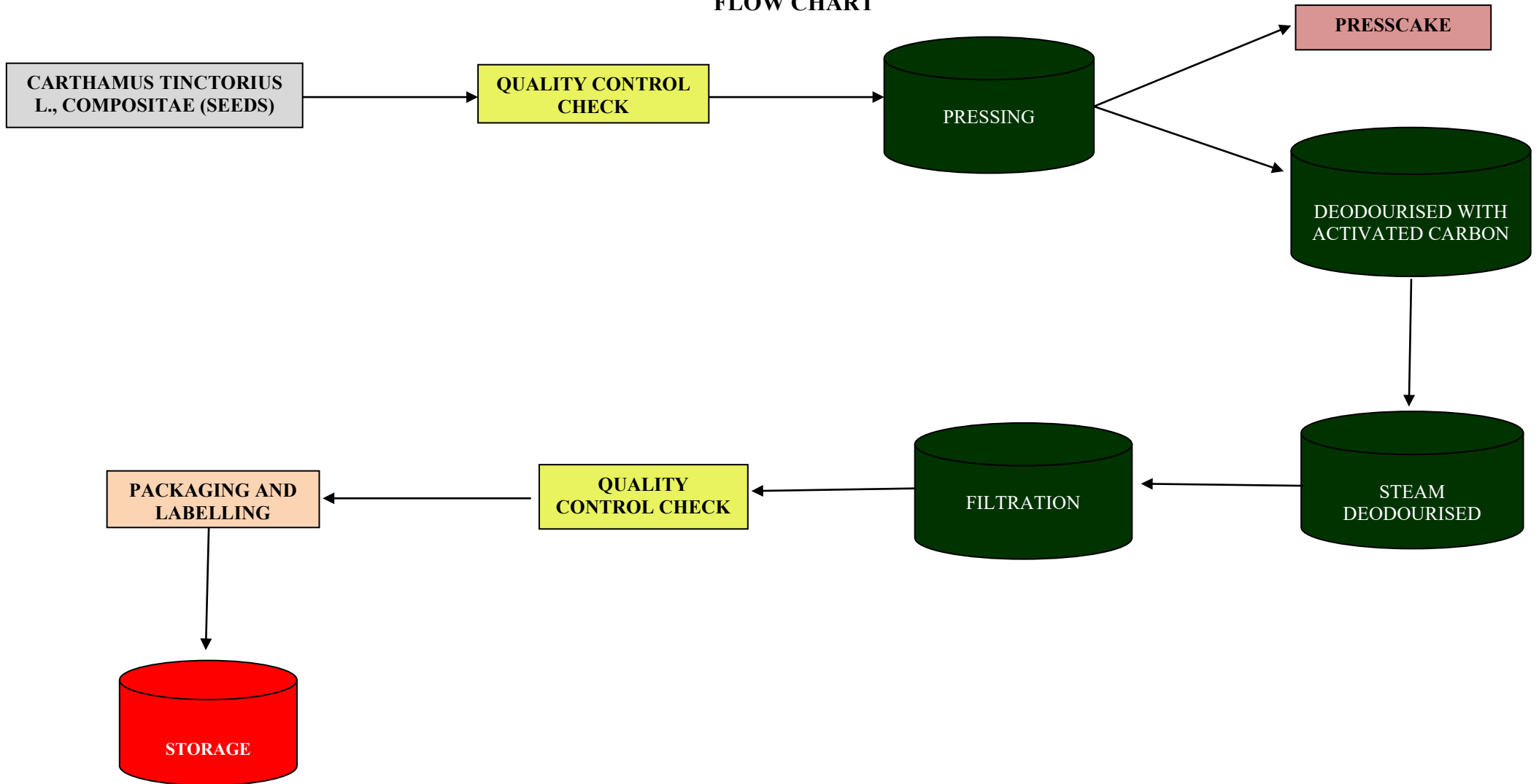


Certificate of Analysis

| PRODUCT DETAILS | | | | | |
|--------------------------------------|---------|---|---------|------------------------------|---------|
| Product Name | | SAFFLOWER OIL REFINED | | | |
| Tariff Number | | 15121910 | | | |
| Country of Origin | | EU | | | |
| Batch Number | | 4429204 | | | |
| Expiry Date | | April 2023 | | | |
| Identification | | CAS No: 8001-23-8 | | EC No: 232-276-5 | |
| PHYSICAL AND CHEMICAL CHARACTERISTIC | | | | | |
| | | SPECIFICATION RANGE | | RESULTS | |
| Appearance | | Liquid | | Conforms | |
| Colour | | Light Yellow | | Conforms | |
| Odour | | Neutral | | Conforms | |
| Relative Density @ 20°C | | 0.918 - 0.924 | | 0.92 | |
| Refractive Index @ 20°C | | 1.473 - 1.479 | | 1.476 | |
| Acid Value (mgKOH/g) | | ≤0.6 | | 0.08 | |
| Iodine Value (mg/g) | | 135 - 150 | | 146 | |
| Saponification Value (mgKOH/g) | | 188 - 194 | | 190 | |
| FATTY ACID PROFILE (%) | | | | | |
| CONSTITUENT RANGE | RESULTS | CONSTITUENT RANGE | RESULTS | CONSTITUENT RANGE | RESULTS |
| C14:0 Myristic Acid ≤0.2 | 0.1 | C16:0 Palmitic Acid 4.0 - 10.0 | 6.3 | C18:0 Stearic Acid 1.0 - 5.0 | 2.7 |
| C18:1 Oleic Acid 8.0 - 21.0 | 12.4 | C18:2 Linoleic Acid 68.0 - 83.0 | 77.4 | C18:3 Linolenic Acid ≤0.5 | 0.12 |
| C20:0 Arachidic Acid ≤0.5 | 0.14 | C20:1 Eicosenoic Acid ≤0.5% | 0.12 | C22:0 Behenic Acid ≤1.0 | 0.09 |
| STORAGE AND SHELF LIFE | | | | | |
| Storage | | Store in tightly closed container with minimum headspace in a cool, dark and dry place. | | | |
| Shelf Life | | 24 Months unopened and stored as above. | | | |

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 users responsibility to satisfy himself as to the suitability of such information for his own particular use. Where we make a declaration that allergenic material are not present in any product, this statement is made assuming reasonable levels of detection. It is impossible to guarantee the "absolute absence" of any material. It is the ultimate responsibility of the customer to ensure the safety of the intended final product containing this material, by carrying out additional tests if necessary.

PROCESSING – SAFFLOWER OIL REFINED
FLOW CHART





**SAFETY DATA SHEET
SAFFLOWER OIL REFINED**

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

| | |
|-----------------------|-------------------------------|
| Product name | SAFFLOWER OIL REFINED |
| Product number | SAFFLR1000 |
| Synonyms; trade names | Carthamus Tinctorius Seed Oil |
| CAS number | 8001-23-8 |
| EC number | 232-276-5 |

1.2. Relevant identified uses of the substance or mixture and uses advised

against Identified uses Fragrances

1.3. Details of the supplier of the safety data sheet

| | |
|----------|---|
| Supplier | Madar Corporation Limited 19 - 20 Sandleheath Industrial Estate Fordingbridge Hampshire SP6 3BE 01425 655555 technical@madarcorporation.co.uk |
|----------|---|

1.4. Emergency telephone number

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

| | |
|-----------------------|----------------|
| Physical hazards | Not Classified |
| Health hazards | Not Classified |
| Environmental hazards | Not Classified |

2.2. Label elements

| | |
|-------------------|-------------------|
| EC number | 232-276-5 |
| Hazard statements | NC Not Classified |

2.3. Other hazards

SECTION 3: Composition/information on ingredients

3.1. Substances

| | |
|--------------|-----------------------|
| Product name | SAFFLOWER OIL REFINED |
| CAS number | 8001-23-8 |

SAFFLOWER OIL REFINED

EC number 232-276-5

SECTION 4: First aid measures

4.1. Description of first aid measures

Skin contact Wash skin thoroughly with soap and water or use an approved skin cleanser. Get medical attention if any discomfort continues.

Eye contact Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

4.2. Most important symptoms and effects, both acute and delayed

General information No further information available at this time.

4.3. Indication of any immediate medical attention and special treatment needed

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Use as appropriate carbon dioxide (CO₂), dry chemical or foam

Unsuitable extinguishing media For safety reasons do not use full water jet.

5.2. Special hazards arising from the substance or mixture

Specific hazards This product is made up of inflammable material with low risk. The product may only form ignitable mixtures or burn only upon heating above the flash point. However, minor contamination by lightly volatile hydrocarbons may increase the hazard. Ignition hazard at welding at the empty container. Dangerous combustion residues: smoke, carbon monoxide, carbon dioxide.

Hazardous combustion products Carbon dioxide (CO₂). Carbon monoxide (CO).

5.3. Advice for firefighters

Protective actions during firefighting Control run-off water by containing and keeping it out of sewers and watercourses. Avoid breathing fire gases or vapours.

Special protective equipment for firefighters Wear full protective clothing

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with skin, eyes and clothing. For personal protection, see Section 8. Wash thoroughly after dealing with a spillage.

6.2. Environmental precautions

Environmental precautions Avoid discharge into drains or watercourses or onto the ground. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Absorb with inert, non-combustible, inorganic absorbent material (e.g. sand, earth, diatomaceous earth, vermiculite). Sweep up and remove to an approved disposal container. Do not absorb in sawdust or other combustible absorbents. For any concern related to disposal consult section 13. Wash spill site after material pick up is complete. Wash thoroughly after dealing with a spillage.

6.4. Reference to other sections

SAFFLOWER OIL REFINED

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Apply good manufacturing practice and industrial hygiene practices. Keep containers sealed when not in use. Avoid contact with skin, eyes and clothing. Avoid inhalation of vapours. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Keep container tightly closed, in a cool, well ventilated place.

7.3. Specific end use(s)

SECTION 8: Exposure controls/Personal protection

8.1. Control parameters

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

Provide eyewash station

Personal protection

Use personal protection according to Directive 89/686/EEC

Eye/face protection

Approved safety goggles.

Hand protection

Chemical resistant gloves (PVC)

Other skin and body protection

Wear an apron.

Hygiene measures

Good personal hygiene procedures should be implemented.

Respiratory protection

Generally unnecessary in a well ventilated area.
If ventilation is insufficient, respiratory protection must be worn.

Environmental exposure controls

Avoid discharging into drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|--|--|
| Appearance | Liquid. |
| Colour | Light yellow |
| Odour | Neutral |
| Initial boiling point and range | ≥350°C |
| Flash point | ≥ 200°C |
| Relative density | 0.918 - 0.924 @ 20°C |
| Solubility(ies) | Insoluble in water. Soluble in oil and ethanol |

9.2. Other information

Refractive index 1.473 - 1.479 @ 20°C

Hydrocarbon Content

SAFFLOWER OIL REFINED

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity Oxidation with atmospheric oxygen. Formation of free fatty acids.

10.2. Chemical stability

Stability Stable under the prescribed storage conditions.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Reacts with oxidants.

10.4. Conditions to avoid

Conditions to avoid Avoid heat, flames and other sources of ignition.

10.5. Incompatible materials

Materials to avoid Avoid contact with strong oxidising agents.

10.6. Hazardous decomposition products

Hazardous decomposition products Product does not decompose at proper handling

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Notes (oral LD₅₀) No information available.

Acute toxicity - inhalation

Notes (inhalation LC₅₀) No information available.

Skin sensitisation

Skin sensitisation No information available.

SECTION 12: Ecological information

12.1. Toxicity

Acute aquatic toxicity

Acute toxicity - terrestrial Not available.

12.2. Persistence and degradability

Biodegradation Expected to be readily biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential Possible

12.4. Mobility in soil

12.5. Results of PBT and vPvB assessment

12.6. Other adverse effects

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. Do not empty into drains. Do not reuse empty containers.

SECTION 14: Transport information

SAFFLOWER OIL REFINED

General The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).

14.1. UN number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

No transport warning sign required.

14.4. Packing group

Not applicable.

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk according to Not applicable.

**Annex II of MARPOL 73/78
and the IBC Code**

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU legislation Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

Guidance CHIP for everyone HSG228.

15.2. Chemical safety assessment

SECTION 16: Other information

Revision date 11/10/2019

Revision 1

SDS number 5349

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BiOrigins, 19-20 Sandilands Industrial Estate, Fordingbridge, Hampshire, SP8 1PA, UK

Tel: 01425 655555 Email: technical@madarcorporation.co.uk

Product Specification

| PRODUCT DETAILS | | |
|--------------------------------------|---|------------------------------|
| Product Name | SAFFLOWER OIL REFINED | |
| Product Code | SAFFLR1000 | |
| Tariff Number | 15121910 | |
| Country of Origin | EU | |
| INCI Name | Carthamus Tinctorius Seed Oil | |
| Natural Status | We hereby declare, to the best of our knowledge and from information received from our supplier, that this product is in accordance to the requirements of Articles 3 (2) (d) of Regulation (EC) 1334/2008 and therefore can be designated as natural. This product does not contain any solvents or additives. | |
| Food Grade Status | We confirm, from information received from our supplier, that this product conforms with EU Regulations and can be used in food. | |
| Kosher Certified | Not certified but suitable | |
| Halal Certified | We hereby declare, from information received from our supplier, that this product does not contain any ingredient derived from animal origin, extracted from hair or feathers, animal fats, animal extracts, blood of any origin, blood plasma, pork and/or other meat products. This product does not contain alcohol (ethanol or grain alcohol) and has not been used in the manufacturing process. | |
| GMO Declaration | To the best of our knowledge and from information received from our supplier, this product does not derive from genetically modified starting raw material, or additives that are derived from genetically modified organisms. | |
| Manufacturing Process | Please request Flowchart | |
| Identification | CAS No: 8001-23-8 | EC No: 232-276-5 |
| PHYSICAL AND CHEMICAL CHARACTERISTIC | | |
| Appearance | Liquid | |
| Colour | Light Yellow | |
| Odour | Neutral | |
| Relative Density @ 20°C | 0.918 - 0.924 | |
| Refractive Index @ 20°C | 1.473 - 1.479 | |
| Flash Point °C | ≥200 | |
| Boiling Point °C | ≥350 | |
| Solubilities | Insoluble in Water, Soluble in Oil and Ethanol | |
| Acid Value (mgKOH/g) | ≤0.6 | |
| Iodine Value (mg/g) | 135 - 150 | |
| Saponification Value (mgKOH/g) | 188 - 194 | |
| FATTY ACID PROFILE (%) | | |
| C14:0 Myristic Acid ≤0.2 | C16:0 Palmitic Acid 4.0 - 10.0 | C18:0 Stearic Acid 1.0 - 5.0 |
| C18:1 Oleic Acid 8.0 - 21.0 | C18:2 Linoleic Acid 68.0 - 83.0 | C18:3 Linolenic Acid ≤0.5 |
| C20:0 Arachidic Acid ≤0.5 | C20:1 Eicosenoic Acid ≤0.5% | C22:0 Behenic Acid ≤1.0 |
| FOOD ALLERGENS | | |
| NONE PRESENT | | |
| IFRA + FRAGRANCE ALLERGENS | | |
| NOT APPLICABLE | | |
| STORAGE AND SHELF LIFE | | |
| Storage | Store in tightly closed container with minimum headspace in a cool, dark and dry place. | |
| Shelf Life | 24 Months unopened and stored as above. | |

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Vegan and Vegetarian Statement

| IDENTIFICATION | |
|--|------------------------------------|
| Product: | SAFFLOWER OIL REFINED (SAFFLR1000) |
| Cas No: | 8001-23-8 |
| EINECS No: | 232-276-5 |
| STATEMENT | |
| <p>We, Madar Corporation Limited, from information received from our supplier, hereby declare that the material listed above is suitable for the following:</p> <p>Vegans (Excludes all animal derived products, including dairy, eggs, leather, bee products (beeswax and honey).</p> <p>Lacto Vegetarians (Same as vegan but allows milk products and bee products.</p> <p>Ovo Vegetarians (Same as vegan but allows egg products and bee products)</p> <p>It does not contain any animal ingredients or animal by products. No animal ingredients or by products are used in the manufacturing process.</p> <p>This document represents to the best of our knowledge and from information received from our supplier. It does not release the buyer from the obligation to carry out an examination of the goods received. All uses made by the buyer are done under their own responsibility.</p> | |