Certificate of Analysis

Batch Details

Product Name: GRAPEFRUIT LIQUID FRUIT EXTRACT
Batch No: 4417512
Best Before End: DECEMBER 2022

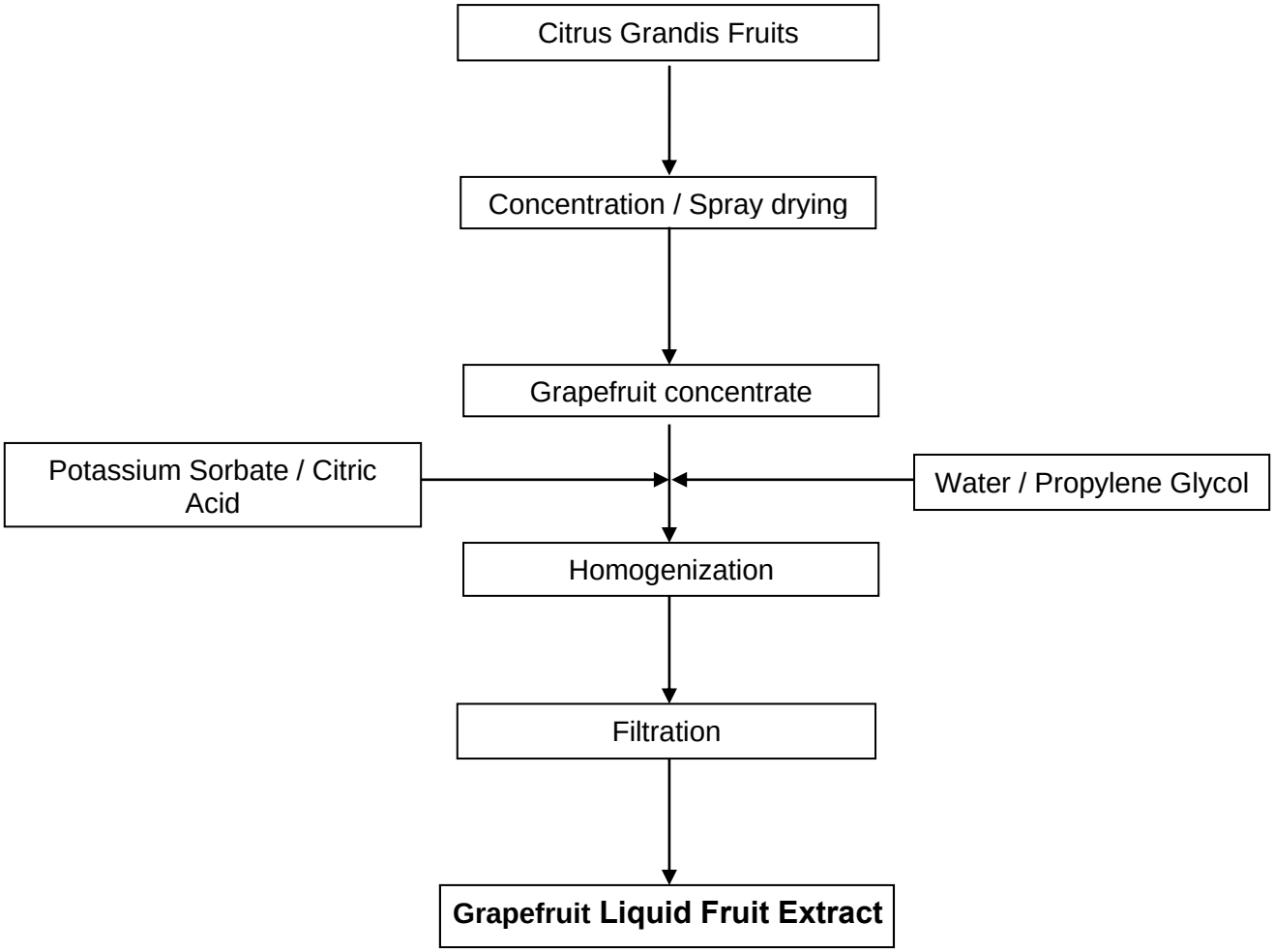
Quality Control Results

Analytical Test Method No.	Characteristic	Specification Limit Lower	Upper	Value	Unit	Status
	Addendum 00	PASS OR FAIL		Pass	-	P
AC018000	APPEARANCE FORM	LIQUID		Pass		P
AC018000	APPEARANCE CLARITY	CLEAR		Pass		P
AC018000	APPEARANCE COLOUR	VERY PALE YELLOW TO YELLOW		Pass		
AC018000	ODOUR	CHARACTERISTIC		Pass		P
FC0031A0	SPECIFIC GRAVITY (20°C)	1.020	1.050	1.033		P
FC0032A0	REFRACTIVE INDEX (20°C)	1.355	1.385	1.370		P
FC0064A0	pH VALUE (20°C)	4.0	7.0	5.5		P
FC0028A0	DRY RESIDUE (2.5g 105°C 15h)	0.5	5.0	1.9%		P
JC0054B0	MOULDS/YEASTS	10 MAX CFU/G		Pass		P
JC0054B0	TOTAL GERMS	10 MAX CFU/G		Pass		P

between 15-25°C, dark in closed containers
the performed analysis are guaranteed on original packaging when stored accordingly, stable for 24 months

18.03.2020

Flow Chart of
Grapefruit Liquid Fruit Extract



Date : 27.07.2015

ORIGIN STATEMENT

We herewith confirm that the product Grapefruit Liquid Fruit Extract, is produced from synthetic, plants and biotechnological origin raw materials, with reference to the confirmation of our raw materials suppliers.

This product is derived from non animal sources and does not contain material of bovine, ovine, caprine origin with reference to the confirmation of our raw materials suppliers.

According our knowledge and the confirmation of our suppliers, this product:

- Does not contain any genetically modified organism
- Is not produced with help of genetic engineering techniques

However, this confirmation does not permit any claims such as "produced without genetically modified organism" for products manufactures from our delivered product, according the EC regulations N° 1829/2003 and 1830/2003 because this law is not applicable to non-food products.

This information is given in good faith and is based on our knowledge to date. This correspondence will not be automatically updated in the future.

Composition Information

Product Name: Grapefruit Liquid Fruit Extract
Product Code: FEGRAP

INCI Name : Water, Propylene Glycol, Citrus Grandis (Grapefruit) Fruit Extract

INCI Name EU : to follow Cosing, the European Commission database on http://ec.europa.eu/consumers/cosmetics/cosing/

Composition :

Water	62 – 66%
Propylene Glycol	28 – 32%
Citrus Grandis (Grapefruit) Fruit Extract *	4 – 6%

* Citrus Grandis (Grapefruit) Fruit Extract is expressed as **fresh** fruits

Preservative :	Potassium Sorbate	approx. 0.5 %
Antioxidant :	None	
Co-additive :	Citric Acid	approx. 0.06 %

03/16
This composition replaces the earlier one dated 12/13

Date: 30/08/2018

REACH STATEMENT

MADAR Corporation is committed to meet the requirements set out in the REACH (Registration Evaluation and Authorization of Chemicals) regulations and we are working with our suppliers to ensure a continued supply of the below mentioned product.

Below listed product is so called preparation composed of ingredients (named under REACH as substances).

Grapefruit Liquid Fruit Extract

INCI	CAS	EINECS	REACH status	Comment
Water	7732-18-5	231-791-2	/	/
Propylene Glycol	57-55-6	200-338-0	Registered	01-2119456809-23
Citrus Grandis (Grapefruit) Fruit Extract	90045-43-5	289-904-6	Exempt	Production < 1 T / year
Potassium sorbate	24634-61-5	246-376-1	Registered	01-2119950315-41
Citric Acid	5949-29-1	611-842-9	Registered	01-2119457026-42

If in the future the amount of a substance produced by our supplier would exceed the 1T/year limit, they will ensure its registration.
Substances of Very High Concern (SVHC; in REACH's Appendix XIV substances' list subjected to authorization) have not been added in the above mentioned product and are not expected to be impurities of the raw materials used in this product
This information is given in good faith and is based on our knowledge to date.

Non-warranty
The information in this publication is believed to be accurate and is given in good faith but no representation or warranty as to its completeness or accuracy is made. Suggestions for uses or applications are only opinions. Users are responsible for determining the suitability of these products for their own particular purpose. No representation or warranty, express or implied, is made with respect to information or products including without limitation warranties of merchantability or fitness for a particular purpose or non-infringement of any third party patent or other intellectual property rights including without limit copyright, trademark and designs.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

GRAPEFRUIT LIQUID FRUIT EXTRACT

Version	Revision Date:	Date of last issue:	Print Date :
1.0	05.12.2019	-	18.03.2020
		Date of first issue: 05.12.2019	

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

1.1 Product identifier

Product name : GRAPEFRUIT LIQUID FRUIT EXTRACT

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

Use of the Sub-stance/Mixture : Manufacture of soap and detergents, cleaning and polishing mixtures
Cosmetic additive

1.3 Details of the supplier of the safety data sheet

Company : MADAR Corporation Limited
19-20 Sandleheath Industrial Estate
Fordingbridge
Hampshire
SP6 1PA

Telephone : +44 1425 655555

E-mail address : technical@madarcorporation.co.uk

1.4 Emergency telephone number

Emergency telephone number : USA: 24 Hour Emergency Response Information CHEMTREC toll free: 1-800-424-9300; direct/international: 1-703-527-3887. CANADA: CANUTEC 1-888-CAN-UTEC (226-8832), 613-996-6666 or *666. EUROPE: 00 32 3575 5555. ASIA PACIFIC - excl. China: +65 6542-9595. CHINA: +86 816-635 2206. AUSTRALIA: +61 2 7808 3390. SOUTH AFRICA: +32 3 575 55 55. BRASIL:Suatrans 0800 707 7022 / 0800 707 1767. LATAM: Suatrans (+55) 11 98149-0850 / (+55) 19 3833-5300. INDIA: +91 22 30948601/2. JAPAN: +65 6542 9595 (24 時間 日本語対応無料通話, シンガポール). TÜRKIYE: Sağlik Bakanliği Ulusal Zehir Merkezi - 114

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Chemical nature : Cosmetics

Components

Remarks : No hazardous ingredients

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : When symptoms persist or in all cases of doubt seek medical advice.

If inhaled : If breathed in, move person into fresh air.
If symptoms persist, call a physician.

In case of skin contact : In case of contact, immediately flush skin with soap and plenty of water.
If symptoms persist, call a physician.

In case of eye contact : In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

If swallowed : If large quantities of this material are swallowed, call a physician immediately.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : None known.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : None known.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media : High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting : In case of fire hazardous decomposition products may be produced such as:
Carbon oxides

Do not use a solid water stream as it may scatter and spread fire.

5.3 Advice for firefighters

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

Further information : Prevent fire extinguishing water from contaminating surface water or the ground water system.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Ensure adequate ventilation.
Use personal protective equipment.

6.2 Environmental precautions

Environmental precautions : Prevent product from entering drains.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Soak up with inert absorbent material.
Sweep up and shovel into suitable containers for disposal.

6.4 Reference to other sections

None.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : Handle in accordance with good industrial hygiene and safety practice.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Store in original container. Keep container tightly closed in a dry and well-ventilated place.

Advice on common storage : No special restrictions on storage with other products.

Recommended storage temperature : 15 - 25 °C

Further information on storage stability : Recommended storage temperature

Stable under recommended storage conditions.

7.3 Specific end use(s)

Specific use(s) : Manufacture of chemical products

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Propylene glycol	57-55-6	TWA (particles)	10 mg/m3	GB EH40
Further information	Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used			
		TWA (Total vapour and particles)	150 ppm 474 mg/m3	GB EH40
Further information	Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used			

8.2 Exposure controls

Personal protective equipment

Eye protection : Safety glasses with side-shields

Hand protection

Remarks	:	For prolonged or repeated contact use protective gloves.
Skin and body protection	:	Impervious clothing
Respiratory protection	:	No personal respiratory protective equipment normally required.
Protective measures	:	Wear suitable protective equipment.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	:	clear, liquid
Colour	:	yellow
Odour	:	characteristic
Odour Threshold	:	No data available
pH	:	4.0 - 7.0 (20 °C)
Melting point	:	No data available
Boiling point	:	No data available
Decomposition temperature		No data available
Flash point	:	No data available
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Density	:	1.020 - 1.050 g/cm3 (20 °C)
Solubility(ies)		
Water solubility	:	soluble
Solubility in other solvents	:	not determined

Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Explosive properties	:	Classification Code: No data available
Oxidizing properties	:	No data available

9.2 Other information

Self-ignition	:	No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

No data available

10.3 Possibility of hazardous reactions

Hazardous reactions	:	Stable under recommended storage conditions.

10.4 Conditions to avoid

Conditions to avoid	:	None known.

10.5 Incompatible materials

Materials to avoid	:	Strong oxidizing agents

10.6 Hazardous decomposition products

No data available
In case of fire hazardous decomposition products may be produced such as:
Carbon oxides

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product:

Acute oral toxicity : No data available:

Acute inhalation toxicity : No data available:

Acute dermal toxicity : No data available:

Skin corrosion/irritation

Product:

Remarks : No data available

Serious eye damage/eye irritation

Product:

Remarks : No data available

Respiratory or skin sensitisation

Product:

Remarks : No data available

Germ cell mutagenicity

Product:

Genotoxicity in vitro : Remarks: No data available

Carcinogenicity

Product:

Carcinogenicity - Assessment : No data available

STOT - single exposure

Product:

Assessment : No data available

STOT - repeated exposure

Product:

Assessment : No data available

Aspiration toxicity

Product:

No data available

Further information

Product:

Remarks : Health injuries are not known or expected under normal use.

SECTION 12: Ecological information

12.1 Toxicity

Product:

Toxicity to fish : Remarks: No data available

12.2 Persistence and degradability

Product:

Biodegradability : Remarks: No data available

12.3 Bioaccumulative potential

Product:

Bioaccumulation : Remarks: No data available

12.4 Mobility in soil

Product:

Mobility : Remarks: No data available

Distribution among environmental compartments : Remarks: No data available

12.5 Results of PBT and vPvB assessment

Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

Product:

Additional ecological information : No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Dispose of in accordance with local regulations.

Contaminated packaging : Empty remaining contents.
Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14: Transport information

14.1 UN number

Not regulated as a dangerous good

14.2 UN proper shipping name

Not regulated as a dangerous good

14.3 Transport hazard class(es)

Not regulated as a dangerous good

14.4 Packing group

Not regulated as a dangerous good

14.5 Environmental hazards

Not regulated as a dangerous good

14.6 Special precautions for user

Not applicable

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

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

The components of this product are reported in the following inventories:

CH INV : On the inventory, or in compliance with the inventory

DSL : All components of this product are on the Canadian DSL

AICS	:	On the inventory, or in compliance with the inventory
PICCS	:	On the inventory, or in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory

15.2 Chemical safety assessment

SECTION 16: Other information

Full text of other abbreviations

GB EH40	:	UK. EH40 WEL - Workplace Exposure Limits
GB EH40 / TWA	:	Long-term exposure limit (8-hour TWA reference period)

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The 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, unless specified in the text.

GB / EN

Date: 18.03.2020

Specification

Product Name: GRAPEFRUIT LIQUID FRUIT EXTRACT
Specification: 15/10/2019

Analy. Test Method No.	Characteristic	Specification Limits Lower	Upper	Units
	REVISION NUMBER	1.0		
AC018000	APPEARANCE FORM	LIQUID		
AC018000	APPEARANCE CLARITY	CLEAR		
AC018000	APPEARANCE COLOUR	VERY PALE YELLOW TO YELLOW		
AC018000	ODOUR	CHARACTERISTIC		
FC0031A0	SPECIFIC GRAVITY (20°C)	1.020	1.050	
FC0032A0	REFRACTIVE INDEX (20°C)	1.355	1.385	
FC0064A0	pH VALUE (20°C)	4.0	7.0	
FC0028A0	DRY RESIDUE (2.5g-105°C-15h)	0.5	5.0	%
JC0054B0	MOULDS/YEASTS	10 MAX CFU/G		
JC0054B0	TOTAL GERMS	100 MAX CFU/G		

Long term storage between 15-25°C, dark in closed containers.
The performed analysis are guaranteed on original packaging.
When stored accordingly, stable for 24 months.

Toxicological dossier

Product Name: Grapefruit Liquid Fruit Extract

INCI Name : Water, Propylene Glycol, Citrus Grandis (Grapefruit) Fruit Extract

INCI Name EU: to follow Cosing, the European Commission database on http://ec.europa.eu/consumers/cosmetics/cosing/

Composition :
(A: > 50 %; B: 25 - 50 %; C: 10 - 25 %; D: 5 - 10 %; E: 1 - 5 %; F: 0.1 - 1 %; G: < 0.1 %)

Water	A
Propylene Glycol	B
Citrus Grandis (Grapefruit) Fruit Extract	E*

* Citrus Grandis (Grapefruit) Fruit Extract is expressed as **fresh** fruit

Origin of raw materials :

- Plant origin : Citrus grandis
  - plant part : Fruits
  - from organic culture : No
  - free of GMO : Yes
- Synthetic origin : Propylene Glycol, Potassium Sorbate
- Animal origin : No

Preservative : Potassium Sorbate (approx 0.5%)

Antioxidant : None

Co-additive : Citric Acid (approx 0.06%)

Manufacturing process : Glycolic/aqueous extraction of grapefruit based on the fruit juice concentrate, conditioning, filtration

Microbiological Data :

⇒	Bacteria	< 100 cfu / g OR
⇒	Moulds and yeasts	< 10 cfu / g
⇒	Pathogenic Micro-organisms	Not tested

Contamination by trace elements :

⇒	Heavy metals :	Total heavy metals expressed as Pb < 10 ppm according to Ph. Eur. 2.4.8 method C or USP <231> method II. Conclusion by analogy
⇒	Pesticides:	Pesticides are expected to pass DFG S 19 (according to "Rückstandshöchstmengenverordnung") Conclusion by analogy
⇒	Impurities :	Not expected – not tested

Impurities are residual monomer, dioxane, chloroacetic acid, 3-Chloropropanol, nitrosamines, amine, polychloro biphenyls, benzene, nuts, polychloro dibenzo dioxins and dibenzo furans and dimethyl aminopropylamine

⇒	Residual solvents:	Not expected – not tested

Total volatile components / Allergens content :

We herewith confirm that **Grapefruit Liquid Fruit Extract**, meets the following properties:

CAS-No.	Allergen	Content expected
122-40-7	Amyl cinnamic aldehyde	Not expected
101-85-9	Amyl cinnamic alcohol	Not expected
105-13-5	Anisyl alcohol	Not expected
100-51-6	Benzyl alcohol	Not expected
120-51-4	Benzyl benzoate	Not expected
103-41-3	Benzyl cinnamate	Not expected
118-58-1	Benzyl salicylate	Not expected
104-55-2	Cinnamic aldehyde	Not expected
104-54-1	Cinnamic alcohol	Not expected
5392-40-5	Citral	Not expected
106-22-9	Citronellol	Not expected
91-64-5	Coumarin	Not expected
97-53-0	Eugenol	Not expected
4602-84-0	Farnesol	Not expected
106-24-1	Geraniol	Not expected
101-86-0	Hexyl cinnamaldehyde	Not expected
107-75-5	Hydroxycitronellal	Not expected
97-54-1	Isoeugenol	Not expected
80-54-6	Lilial	Not expected*
5989-27-5	d-Limonene	Not expected
78-70-6	Linalool	Not expected
31906-04-4	Lyral	Not expected*
111-12-6	Methyl heptine carbonate	Not expected
127-51-5	Methyl ionone alpha iso	Not expected
90028-68-5	Oakmoss	Not expected**
90028-67-4	Tree Moss	Not expected**

* They are synthetic substances that do not occur in botanicals.
** The substances are not expected to be part of the fruits of Citrus grandis

The single contents are based on risk estimation which is based on botanical and phytomedicinal reference literature and conclusions by analogy.

Hazardous & CMR Substances

We herewith confirm that, with reference to the confirmation of our raw materials suppliers, we do not add any CMR (Carcinogenic, Mutagenic, Toxic for reproduction) substances graded 1A, 1B or 2 in accordance with the Annex VI of the European Regulation 1272/2008 and its amendments to our product listed below.

Grapefruit Liquid Fruit Extract

The product fulfils the requirement of Article 15 of the European Regulation 1223/2009 and its amendments.
Botanical preparations which contain technically unavoidable traces or impurities of plant constituents listed as CMR in the European Regulation 1272/2008.are not affected by the exclusion listed in Article 15 of the European Regulation 1223/2009.

Animal testing

Our manufacturer confirms that since 1990, our products have not been tested on animals in order to meet the requirements of the Cosmetic Regulation and we will not carry out animal tests in the future to meet the requirements of the Cosmetic Regulation.

We are aware that the individual substances that comprise our products may have been tested on animals in the past, but these tests were not carried out either by or on the request of MADAR.

MADAR therefore confirms the compliance of our products with the Cosmetic Regulation 1223/2009 concerning the ban on testing in animals in order to meet the requirements of the Cosmetic Regulation.

Main actives in the plant :

- ⇒ Flavonoids
- ⇒ Vitamin C
- ⇒ Fruit acids (Malic, Citric acid)
- ⇒ Sugars (Sucrose)

Main actives in the extract : Not determined

Toxicological Data :

We do not see any danger in using Grapefruit Liquid Fruit Extract in cosmetic agents taking into account the application form, the concentration, the amount used and the frequency of use.

We haven't carried out clinical studies on Grapefruit Liquid Fruit Extract, but according to literature, Propylene Glycol and Citrus Grandis don't contain potentially toxic compounds and they are safe when used appropriately.

Grapefruit oil has the GRAS status (Generally Recognized as Safe).[2]

⇒ Human skin irritation :

Propylene Glycol :	In a 24-h skin irritation test involving nude mice, there were no reactions to 10% PG. [1]
	Draize test results indicated that PG was, at most, a mild skin irritant when applied for 24 h to abraded and intact skin of rabbits. When PG was applied to the skin of guinea pigs and rabbits (guinea pigs and rabbits lack sweat glands) for 48 h using open and closed patches, no reactions were observed. The results of 48 h and 21 day open and closed patch tests involving Gottingen swine (no sweat glands) indicated no reactions to PG.[1]
Grapefruit oil :	Dermatological studies have indicated grapefruit oil to be nonirritating to humans.[2][3]

⇒ Mucous membrane irritation :

Propylene Glycol :	Propylene glycol did not induce corneal damage in rabbits in the Draize test and was classified as a slight ocular irritant in another ocular irritation study. [1]
Grapefruit oil :	expressed grapefruit oil is non-irritant [3]

⇒ Sensitisation potential :

Propylene glycol : Results were negative for 100% PG in a mouse external ear swelling sensitization test. The results of a GMPT, OET and chamber (Finn chamber) test indicated no sensitization reactions to 70% PG.(1)

Grapefruit oil : Dermatological studies have indicated grapefruit oil to be nonsensitizing to humans.(2)(3)

⇒ Cytotoxicity : No data available

⇒ Phototoxicity :

Grapefruit oil : Dermatological studies have indicated grapefruit oil to be nonphototoxic to humans.(2)

May be phototoxic if used fresh (3)

⇒ Mutagenicity (e.g. Ames Test) :

Propylene glycol : In the Ames test, PG was not mutagenic in strains TA1535, TA1537, TA1538, TA98 and TA100 of Salmonella typhimurium with and without metabolic activation.(1)

⇒ Carcinogenicity :

Propylene glycol : Not carcinogenic (1)

Grapefruit oil : Grapefruit oil has been reported to promote tumor formation on mouse skin by the primary carcinogen, 9,10-dimethyl-1,2-benzanthracene.(2)

⇒ Acute toxicity :

Propylene glycol: Propylene glycol is relatively harmless.
Oral LD_{50} = 21 g/kg body wt in rats (1)

Grapefruit oil : Oral LD_{50} > 5 g/kg body wt in rats (3)

⇒ Inhalation toxicity : No data available

⇒ Chronic toxicity : No data available

⇒ Reproduction toxicity :

Propylene glycol : PG was not teratogenic in female CD-1 mice when administered at a concentrationof 10 000ppm on days 8-12 of gestation.(1)

Ecological Data :

Our product contains mainly Propylene Glycol/Water vehicle:

⇒ The ecological information about Propylene Glycol is :

Environmental toxicity :

LC_{50} (fish – 96 hours) > 54900 mg/l
EC_{50} (Daphnia – 48 hours) > 43500 mg/l
EC_{50} (Algae – 78 hours) > 19000 mg/l

Biodegradability : Easily biodegradable

⇒ Water hazard class: 1 (self classification)

Phytopharmaceutical Data :

⇒	External uses :	used as an additive in refreshing tonics, face masks, after shave formulations, shampoos, cleansing milks.
⇒	Contraindications :	None known
⇒	Side effects :	None known
⇒	Interactions:	None known

References :

(1) CIR Report, CTFA 2006 for toxicological information regarding Propylene Glycol

(2) A. Leung, S. Foster, Encyclopedia of Common Ingredients, Second Edition, Wiley Interscience, 1996, information regarding Grapefruit Oil pages 286-287.

(3) R. Tisserand, µT. Balacs, Essential oil safety, Churchill Livingstone, 2002, information regarding Grapefruit pages 136 and 206.

03/20

This toxicological dossier replaces the earlier one dated 08/06, 02/08, 05/10, 12/13, 02/16

Date : 18.03.2020

STATEMENT

We hereby confirm that the below mentioned product is derived from non-animal sources. The manufacturer further confirms that since 1990, this product has not been tested on animals in order to meet the requirements of the Cosmetic Regulation neither by nor on the request of MADAR Corporation and we will not carry out animal tests in the future to meet the requirements of the Cosmetic Regulation.

Grapefruit Liquid Fruit Extract

Cross-contamination cannot be excluded considering that some of the raw materials used in our production site are from animals' origins, but the risk is expected to be very low as adequate quality measures are implemented to limit the occurrence of contamination.

This information is given in good faith with our actual knowledge. This correspondence will not be automatically updated in the future.