



**CERTIFICATE OF ANALYSIS**  
**GARLIC OIL**

Batch No: 4352506  
Best Before End: March 2022

**Description:** A pale yellow to reddish orange clear mobile liquid.  
**Odour:** Pungent, characteristic of Garlic

TEST	SPECIFICATION	ANALYSIS
Specific Gravity @ 15.5°C	1.050 – 1.097	1.097
Refractive Index @ 20°C	1.550 – 1.580	1.577
Flash Point (°C)	-	-

## ALLERGENS DECLARATION

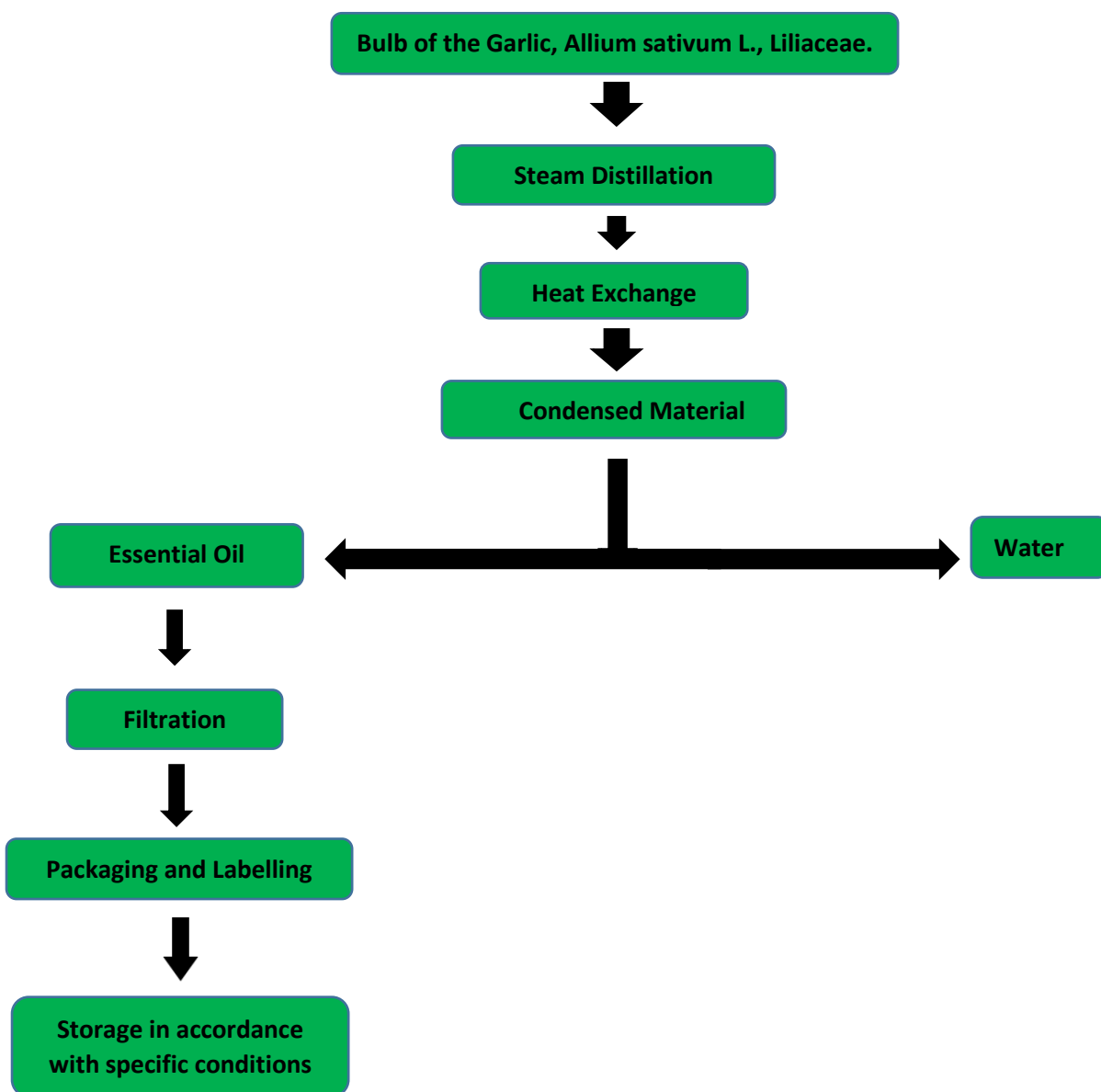
Product Name	Garlic Oil
INCI Name	Allium Sativum Bulb oil

Material	CAS Number	Cosmetic Allergens Inclusion (%)
AMYL CINNAMAL	122-40-7	-
BENZYL ALCOHOL	100-51-6	-
CINNAMYL ALCOHOL	104-54-1	-
CITRAL	5392-40-5	-
EUGENOL	97-53-0	-
HYDROXYCITRONELLAL	107-75-5	-
ISO EUGENOL	97-54-1	-
AMYL CINNAMYL ALCOHOL	101-85-9	-
BENZYL SALICYLATE	118-58-1	-
CINNAMAL	104-55-2	-
COUMARIN	91-64-5	-
GERANIOL	106-24-1	-
HYDROXYISOHEXYL 3-CYCLOHEXENE CARBOXALDEHYDE	31906-04-4	-
ANISE ALCOHOL	105-13-5	-
BENZYL CINNAMATE	103-41-3	-
FARNESOL	4602-84-0	-
BUTYLPHENYLMETHYLPROPIONAL	80-54-6	-
LINALOOL	78-70-6	-
BENZYL BENZOATE	120-51-4	-
CITRONELLOL	106-22-9	-
HEXYL CINNAMAL	101-86-0	-
LIMONENE	5989-27-5	-
METHYL 2-OCTYNOATE	111-12-6	-
ALPHA-ISOMETHYLIONONE	127-51-5	-
EVERNIA PRUNASTRI EXTRACT	90028-68-5	-
EVERNIA FURFURACEA EXTRACT	90028-67-4	-

**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.

## Manufacturing Flow Chart

Product Name	Garlic Oil
Date	09.05.2017





Document Date:

December 2018

**STATEMENT**

We hereby certify that the Garlic Essential Oil we sell is free of genetically modified materials and components. No ingredients, additives or processing aids of GM origin are used in the processing and purifying of the oil.





## IFRA Conformity Certificate

Product Name	Garlic Oil		
INCI Name	Allium Sativum Bulb Oil		
Product Code	WHC412		
Revision No	1	Date	16.08.2016

We certify that the above compound is in compliance with the Standards of the INTERNATIONAL FRAGRANCE ASSOCIATION (IFRA 48<sup>th</sup> Amendment / published June 2015), provided it is used in the following class(es)) at a maximum concentration level of:

IFRA class(es) [see annex for details]	Max level of use (%)
Class 1.A	Not restricted
Class 1.B	Not restricted
Class 2	Not restricted
Class 3.A	Not restricted
Class 3.B	Not restricted
Class 3.C	Not restricted
Class 3.D	Not restricted
Class 4.A	Not restricted
Class 4.B	Not restricted
Class 4.C	Not restricted
Class 4.D	Not restricted
Class 5	Not restricted
Class 6	Not restricted
Class 7.A	Not restricted
Class 7.B	Not restricted
Class 8.A	2%
Class 8.B	2%
Class 9.A	5%
Class 9.B	5%
Class 9.C	5%
Class 10.A	2.5%
Class 10.B	2.5%
Class 11.A	Not restricted
Class 11.B	Not restricted

For other kinds of application or use at higher concentration levels, a new evaluation may be needed.

The IFRA Standards regarding use restrictions are based on safety assessments by the Panel of Experts of the RESEARCH INSTITUTE FOR FRAGRANCE MATERIALS (RIFM) and are enforced by the IFRA Scientific Committee.



## IFRA Conformity Certificate

Evaluation of individual Fragrance ingredients is made according to the safety standards contained in the relevant section of the IFRA Code of Practice.

This certificate serves only as a guide to the maximum level of use. It is the ultimate responsibility of the customer to ensure safe formulating principles are utilised and the safety of the final product (containing this fragrance), by further testing if need be.

Note 1: It is recommended that any material used to impart perfume or flavour in products intended for human ingestion should consist of ingredients that are in compliance with appropriate regulations for foods and food flavourings in the countries of planned distribution.

Note 2: Trials must be performed to satisfy suitability for specified application.

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## IFRA Conformity Certificate

### ANNEX: Definition of IFRA Classes

Finished product types	IFRA class
Lip Products of all types (solid and liquid lipsticks, balms, clear or coloured, lip wax, etc.) Toys.	Class 1.A
Waxes for mechanical hair removal.	Class 1.B
Deodorant and Antiperspirant Products of all types (spray, stick, roll-on, under-arm and body, etc.) Fragranced bracelets.	Class 2
Hydroalcoholic Products Applied To Recently Shaved Skin. (Edt range)	Class 3.A
Hydroalcoholic Products Applied To Recently Shaved Skin. (Fine fragrance range)	Class 3.B
Eye Products of all types (eye shadow, mascara, eyeliner, eye make-up, eye masks, eye pillows, etc.) Men's Facial Creams, Balms. Tampons. Baby Creams, Lotions, Oils. Body Paint for Children.	Class 3.C
Tampons	Class 3.D
Hydroalcoholic Products Applied To Unshaved Skin (EdT Range) Ingredients of perfume kits, scent strips for hydroalcoholic products.	Class 4.A
Hydroalcoholic Products Applied To Unshaved Skin (Fine fragrance Range)	Class 4.B
Hair Styling Aids, Hair Sprays of all types (pumps, aerosol sprays, etc.) Hair deodorant. Body Creams, Oils, Lotions, Fragrancing Creams of all types (except baby creams, lotions and oils) Fragrance Compounds for Cosmetic Kits, Foot care products	Class 4.C
Fragrancing creams of all types	Class 4.D
Women's Facial Creams/Facial Make-up/Facial wipes Hand cream. Facial masks. Baby Powder & Talc. Hair Permanent and Other Hair Chemical Treatments (e.g. relaxers) but not hair dyes. Wipes or Refreshing Tissues for Face, Neck, Hands, Body. Dry Shampoo or Waterless Shampoo.	Class 5
Mouthwash, including Breath sprays. Toothpaste.	Class 6
Intimate Wipes, Baby Wipes.	Class 7.A
Insect Repellent (intended to be applied to the skin).	Class 7.B
Make-up Removers of all types (not including face cleansers) Hair Styling Aids Non-Spray of all types (mousse, gels, leave-in conditioners, etc.). Nail care, all powders and talcs (not including baby powders and talcs)	Class 8.A



## IFRA Conformity Certificate

Hair Dyes	Class 8.B
Liquid soap, Bar Soap (Toilet Soap), Depilatory. Conditioner (Rinse-Off). Shampoos of all types (including baby shampoos) Face Cleansers of all types (washes, gels, scrubs, etc.) Shaving Creams of all types (stick, gels, foams, etc.) Body Washes of all types (including baby washes) and Shower Gels of all types. Bath Gels, Foams, Mousses, Salts, Oils and Other Products Added To Bathwater.	Class 9.A
Feminine Hygiene – Pads Feminine Hygiene – Liners Toilet Paper Wheat Bags.	Class 9.B
Facial tissues, Napkins, Paper towels. Aerosols (including air fresheners, sprays but not including deodorant/ antiperspirant, hair styling aids.	Class 9.C
Handwash Laundry Detergents of all types (liquid, powder, tablet etc.) including laundry bleaches and concentrates. Other Household Cleaning Products (fabric cleaners, soft surface cleaners, carpet cleaners), dry cleaning kits. Hard Surface Cleaners of all types (bathroom and kitchen cleansers, furniture polish etc) shampoos.	Class 10.A
Nappies Toilet seat wipes.	Class 10.B
All non-skin contact, Including: Air Fresheners and Fragrancing of all types (excluding aerosol products): concentrated aerosol air fresheners, plug-ins, solid substrate, membrane delivery; Toilet blocks, Joss sticks, incense; Insecticides (mosquito coil, paper, electrical, etc. excluding aerosols); Plastic articles (excluding toys); Candles; Fuels ; Paints. Fragranced lamp ring. Scent pack. Floor wax. Scent Delivery System using a dry air technology that releases a fragrance without sprays, aerosols or heated oils (technology of nebulization). Air delivery systems.	Class 11.A
All incidental skin contact, including:  Machine Dishwash Detergent and Deodorizers, Machine Only Laundry Detergent (e.g. liquitabs) Deodorizers/Maskers (e.g.fabric drying machine deodorizers, carpet powders) Pot pourri, fragrancing sachets, liquid refills for air fresheners, etc. Shoe Polishes; Cat litter; animal sprays (excluding aerosols); Treated textiles; Odored distilled water. Scratch and sniff (sampling technology) Infused socks	Class 11.B





## MATERIAL SAFETY DATA SHEET

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

1:1-Product Identifiers:					
Product name		Garlic Oil WHC412			
Biological Definition		Allium Sativum Bulb Oil is the oil expressed from the bulb of the Garlic, <i>Allium sativum L., Liliaceae.</i>			
INCI Name		Allium Sativum Bulb Oil			
Synonyms & Trade Names		-			
Reach Registration Number		-			
FEMA No.	-	FDA No.	-	CoE No.	-
CAS-No	8000-78-0	EC No.	-	EINECS No.	-

#### 1:2 – Relevant Identified Uses of the substance or mixture and uses advised against:

Identified Uses	Cosmetic use, suitable for food use.
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#### 1:3 – Details of the supplier of the Safety data sheets.



Company Name	<b>Madar Corporation</b> <b>19-20 Sandleheath Industrial Estate,</b> <b>SP6 1PA,</b> <b>UK</b> <b>Tel: 01425 655555</b> <b>Email: technical@madarcorporation.co.uk</b>
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### 02. HAZARDS IDENTIFICATION

#### 2:1 Classification of the substance or mixture

Classification (EC 1272/2008)	Acute toxicity - Oral Skin corrosion/irritation Serious eye damage/eye irritation Skin sensitization Flammable liquids	Category 4 - (H302) Category 2 - (H315) Category 2 - (H319) Category 1 - (H317) Category 3 - (H226)
2.2 – Label Elements		
Label Elements in accordance with (EC) No 1272/2008	GHS02	GHS07

## MATERIAL SAFETY DATA SHEET

	 
<b>2:3 - Other hazards</b>	
Signal Word	Warning
Contains	DIALLYL DISULFIDE, DIALLYL TRISULFIDE
Hazard Statements	H302 - Harmful if swallowed. H315 - Causes skin irritation. H319 - Causes serious eye irritation. H317 - May cause an allergic skin reaction. H226 - Flammable liquid and vapour.
Precautionary Statements	P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking P280 - Wear protective gloves/protective clothing/eye protection/face protection P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician P331 - Do NOT induce vomiting P302 + P352 - IF ON SKIN: Wash with plenty of soap and water P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing P337 + P313 - If eye irritation persists: Get medical advice/attention
Supplementary Precautionary Statements	None
PBT or vPvB according to Annex XIII	No additional data available
Adverse physio-chemical properties	No additional data available
Adverse effects on human health	May be harmful in contact with skin

### **03. COMPOSITION/INFORMATION ON INGREDIENTS**

<b>3:1 - Substances</b>	
Substances	No additional data available
<b>3:2 - Mixtures</b>	
Mixtures	<b>35.0 - 45.0% Diallyl Disulfide</b> Cas. No: 2179-57-9 EC No: 218-548-6

## MATERIAL SAFETY DATA SHEET

	<p>Classification (EC 1272/2008): Skin Sens. 1 (H317) (EFFA) Eye Irrit. 1 (H319) (EFFA) Skin Irrit. 2 (315) (EFFA) Acute Tox. 3 (H301) (EFFA) Acute Tox. 5 (H313)(EFFA) Flam. Liq. 3, (H226)(EFFA) Skin Sens. 1 (H317) Eye Irrit. 1 (H319) Skin Irrit. 2 (H315) Acute Tox. 3 (H301) Acute Tox. 5 (H313)</p>
	<p><b>15.0 - 20.0% Diallyl Trisulfide</b>    Cas. No:2050-87-5, EC No. 218-107-8</p> <p>Classification (EC 1272/2008): Acute Tox. 4 (H302) (EFFA) Flam. Liq. 4 (H227)(EFFA) Acute Tox. 4 (H302)</p>
	<p><b>5.0 - 15.0% Diallyl Sulfide</b>        Cas. No: 592-88-1, EC No. 209-775-1</p> <p>Classification (EC 1272/2008): Skin Irrit. 3 (316) (EFFA) Acute Tox. 5 (H303)(EFFA) Flam. Liq. 3 (H226)(EFFA) Skin Irrit. 3 (H316) Acute Tox. 5 (H303)</p>

### 04. FIRST AID MEASURES

<b>4:1 – Description of first aid measures</b>	
Inhalation	Move to fresh air in case of accidental inhalation of vapours. If breathing is difficult, give oxygen. If not breathing, give artificial respiration.
Ingestion	Do not induce vomiting without medical advice. Clean mouth with water. Never give anything by mouth to an unconscious person. Get medical attention.
Skin Contact	Remove contaminated clothing and shoes. Wash off immediately with soap and plenty of water. Wash contaminated clothing before reuse. Consult a physician if necessary.
Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
<b>4:2 – Most important symptoms and effects, both acute and delayed</b>	
Symptoms and effects	None known
<b>4:3 – Indication of any immediate medical attention and special treatment needed</b>	
Special requirements	Treat symptomatically

## MATERIAL SAFETY DATA SHEET

### **05. FIRE-FIGHTING MEASURES**

<b>5:1 - Extinguishing Media</b>	
Suitable extinguishing Media	Foam, Carbon dioxide or dry powder.
Unsuitable extinguishing Media-DO NOT USE	No additional data available
<b>5:2 - Special Hazards arising from substance or mixture</b>	
Specific hazards	Thermal decomposition can lead to release of irritating and toxic gases and vapours. Hazardous combustion products: Irritating or toxic substances may be emitted upon burning, combustion, or decomposition.
<b>5:3 – Advice for firefighters</b>	
Special firefighting procedures/ protective actions.	Wear self-contained breathing apparatus and protective suit. Use personal protective equipment as required.

### **06. ACCIDENTAL RELEASE MEASURES**

<b>6:1 - Personal Precautions, protective equipment and emergency procedures.</b>	
Personal precautions	Ensure adequate ventilation, especially in confined areas. Use personal protection recommended in Section 8.
<b>6:2 - Environmental Precautions</b>	
Environmental Precautions	Do not discharge into drains, water courses or onto the ground. Dispose of in line with Local authority guidelines.
<b>6:3 – Methods and materials for containment and cleaning up</b>	
Spill Clean Up Methods	Methods for Containment - Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13). Methods for cleaning up - Cover liquid spill with sand, earth or other non-combustible absorbent material. Sweep up and shovel into suitable containers for disposal.
<b>6:4 – Reference to other sections</b>	


## MATERIAL SAFETY DATA SHEET

Reference to other sections	Section 8 – Exposure controls/ personal protection for further information on personal precautions, Section 12 – Ecological information Section 13 – Disposal considerations for further information on waste treatment.
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### 07. HANDLING AND STORAGE

<b>7:1 – Precautions for safe handling</b>	
Usage precautions	Advice on safe handling. Ensure adequate ventilation, especially in confined areas. General hygiene considerations. Handle in accordance with good industrial hygiene and safety practice.
<b>7:2 – Conditions for safe Storage including any incompatibilities</b>	
Storage Precautions	Store in tightly-closed, original container in a dry, cool and well-ventilated place.
Suitable Packaging	No additional data available
<b>7:3 – Specific end use (s)</b>	
End Uses	No additional data available

### 08. EXPOSURE CONTROLS/PERSONAL PROTECTION

<b>8:1 – Control parameters</b>	
Components with workplace control parameters	Derived No Effect Level (DNEL) No information available. Predicted No Effect Concentration (PNEC) No information available.
<b>8:2 – Exposure controls</b>	
Protective Equipment	
Process conditions	No additional data available.
Engineering Measures	Ensure adequate ventilation, especially in confined areas.



## MATERIAL SAFETY DATA SHEET

Respiratory Equipment	Ensure area is well ventilated.
Hand Protection	Wear suitable protective clothing.
Eye Protection	Avoid contact with eyes. Wear safety glasses with side shields (or goggles).
Other Protection	Wear suitable protection to avoid contact with skin and eyes.
Hygiene Measures	Good personal hygiene practices are always advisable, especially when working with chemicals / oils.
Personal protection	Avoid inhalation of the product. Avoid contact with skin and eyes.
Skin protection	Wear protective clothing to reduce the risk of skin and eye contact.
Environmental exposure controls	Avoid discharging into drainage water.

### 09. PHYSICAL AND CHEMICAL PROPERTIES

#### 9:1 - Information on basic physical and chemical properties.

Appearance	Clear liquid yellow to reddish orange.
Colour	Pale yellow to dark yellow.
Odour	Characteristic.
Relative Density	1.050 - 1.095 @20°C
Flash Point (°C)	30
Refractive Index	1.550 - 1.580 @20°C
Melting Point (°C)	No additional data available.
Boiling Point (°C)	No additional data available.
Vapour Pressure	No additional data available.
Solubility in Water @20°C	Insoluble. Soluble in oil. Insoluble in glycerine.
Auto-ignition temperature (°C)	No additional data available.

#### 9:2 - Other information

Other Information	No additional data available.
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## MATERIAL SAFETY DATA SHEET

### 10. STABILITY AND REACTIVITY

10:1- Reactivity	
Reactivity	No additional data available
10:2 - Chemical stability	
Stability	Chemically stable under the recommended handling and storage conditions. Explosion data Sensitivity to Mechanical Impact      None. Sensitivity to Static Discharge          None.
10:3 - Possibility of hazardous reactions	
Possible hazardous reactions	None under normal processing
10:4 - Conditions to avoid	
Conditions to Avoid	Extremes of temperature and direct sunlight.
10:5 – Incompatible materials	
Incompatible materials	No additional data available
10:6 - Hazardous Decomposition Products	
Hazardous Decomposition Products	None under normal use conditions

### 11. TOXOLOGICAL INFORMATION

11:1 Information on toxicological effects	
Acute Toxicity	The following values are calculated based on chapter 3.1 of the GHS document ATEmix (oral)                      349.00 ATEmix (dermal)                    2,777.00 <b>Unknown acute toxicity</b> 100 % of the mixture consists of ingredient(s) of unknown toxicity. 35.3 % of the mixture consists of ingredient(s) of unknown acute oral toxicity. 51.3 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity. 100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas). 100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapour).

## MATERIAL SAFETY DATA SHEET

	<p>100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist).</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 25%;">Chemical</td> <td style="width: 25%;">Oral LD50</td> <td style="width: 25%;">Dermal LD50</td> <td style="width: 25%;">Inhalation LC50</td> </tr> <tr> <td>DIALLYL DISULFIDE</td> <td>= 260 mg/kg ( Rat )</td> <td>= 3600 mg/kg ( Rabbit )</td> <td></td> </tr> <tr> <td>DIALLYL SULFIDE</td> <td>= 2980 mg/kg ( Rat )</td> <td>= 1826 mg/kg ( Rat )</td> <td></td> </tr> <tr> <td></td> <td></td> <td>&gt; 5 g/kg ( Rabbit )</td> <td></td> </tr> </table>	Chemical	Oral LD50	Dermal LD50	Inhalation LC50	DIALLYL DISULFIDE	= 260 mg/kg ( Rat )	= 3600 mg/kg ( Rabbit )		DIALLYL SULFIDE	= 2980 mg/kg ( Rat )	= 1826 mg/kg ( Rat )				> 5 g/kg ( Rabbit )	
Chemical	Oral LD50	Dermal LD50	Inhalation LC50														
DIALLYL DISULFIDE	= 260 mg/kg ( Rat )	= 3600 mg/kg ( Rabbit )															
DIALLYL SULFIDE	= 2980 mg/kg ( Rat )	= 1826 mg/kg ( Rat )															
		> 5 g/kg ( Rabbit )															
Skin corrosion / irritation	No additional data available.																
Serious eye damage / irritation	No additional data available.																
Respiratory or skin sensitisation	No additional data available.																
Germ Cell Mutagenicity	No additional data available.																
Carcinogenicity	No additional data available.																
Reproductive toxicity	No additional data available.																
STOT-single exposure	No additional data available.																
STOT-repeated exposure	No additional data available.																
Aspiration hazard	No additional data available.																
Photo-toxicity	No additional data available.																
Other Information	No additional data available.																

### 12. ECOLOGICAL INFORMATION

<b>12:1- Toxicity</b>	
Ecotoxicity	100 % of the mixture consists of components(s) of unknown hazards to the aquatic environment.
<b>12:2 - Persistence &amp; degradability</b>	




## MATERIAL SAFETY DATA SHEET

Persistence & degradability	The product is expected to be biodegradable
<b>12:3 - Bioaccumulative Potential</b>	
Bioaccumulative Potential	No additional data available.
<b>12:4 – Mobility in soil</b>	
Mobility	No additional data available.
<b>12:5 – Results of PBT and vPvB assessment</b>	
PBT Assessment Results	No additional data available.
<b>12:6 Other adverse effects</b>	
Precautions	Do not allow product to enter streams, sewers or other waterways.

### **13. DISPOSAL CONSIDERATIONS**

<b>13:1 Waste treatment methods</b>	
Disposal Methods	<p><b>Waste from Residues/Unused Products</b>          Disposal should be in accordance with applicable regional, national and local laws and regulations.</p> <p><b>Contaminated packaging</b>          Improper disposal or reuse of this container may be dangerous and illegal.</p>

### **14. TRANSPORT INFORMATION**

Warning Icon	
<b>14:1 – UN Number</b>	
UN No Road – ADR/RID/ADN	1197
UN No Sea- IMDG	1197
UN No Air –IATA	1197



## MATERIAL SAFETY DATA SHEET

<b>14:2 – UN proper shipping name</b>	
Road – ADR/RID/ADN	Extracts, Flavouring, Liquid
Sea- IMDG	Extracts, Flavouring, Liquid
Air - IATA	Extracts, Flavouring, Liquid
<b>14:3 – Transport Hazard class (es)</b>	
Road – ADR/RID/ADN	3
Sea- IMDG	3
Air- IATA	3
<b>14:4 - Packaging group</b>	
Road – ADR/RID/ADN	III
Sea- IMDG	III
Air - IATA	III
<b>14:5 – Environmental hazard</b>	
Environmentally hazardous substance/ marine pollutant.	Not applicable
<b>14:6 - Special precautions for user</b>	
Precautions	Tunnel restriction code ADR: B1, IB3, T2, TP1
<b>14:7 – Transport in bulk according to Annex II of MARPOL 73/79 and the IBC code</b>	
	Not defined



## MATERIAL SAFETY DATA SHEET

### 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 Council of 18 <sup>th</sup> 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.
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	A chemical assessment for this product has not been carried out.

### 16. OTHER INFORMATION

Revision Date	18.08.2016
Rev No/Repl, SDS Generated	3
Change Description	Updated to new MSDS format
Changes made by	K Tatton
Review Date	18.08.2018
Risk Phrases in Full	None



## MATERIAL SAFETY DATA SHEET

Hazard Statements in Full	H302 - Harmful if swallowed H315 - Causes skin irritation H319 - Causes serious eye irritation H317 - May cause an allergic skin reaction H226 - Flammable liquid and vapour.
Other Information	None

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# Specification Sheet

Issue No 2

**Product Name:** Garlic Oil

**INCI Name:** Allium sativum (Garlic) Bulb Oil  
**CAS Number:** 8000-78-0  
**EC Number:** 232-371-1

**Definition:** Obtained by steam distillation of the crushed bulbs of Allium Sativum L (Fam. Lilaceae)  
**Application:** Aromatic products, flavor.  
**Origin:** China

## TYPICAL ANALYTICAL INFORMATION:

**Appearance:** Pale yellow to yellow clear mobile liquid  
**Taste:** Pungent, characteristic of garlic  
**Odour:** Pungent, characteristic of garlic  
**Flash Point:** 45 °C  
**Specific Gravity @ 20°C:** 1.060 – 1.099  
**Refractive Index @ 20°C:** 1.565 – 1.585  
**Status:** Natural  
**Additives:** None

## 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. We certify this is a true copy of the manufacturers/suppliers original specification.

**Date of First Issue:** 10.05.2010  
**Re-Issued:** 03.06.2014

## TYPICAL GC ANALYSIS

Product Name		Garlic Essential Oil			
Date	25/01/2019	Product Code	OEGARL	Revision	1

### Principle Peaks

Component Name	% Area	Comments
Methyl allyl sulfide	2.394	-
Dimethyl disulfide	0.543	-
Diallyl sulfide	5.283	-
Methyl allyl disulfide	11.293	-
Dimethyl trisulfide	0.628	-
Diallyl disulfide	37.231	-
Methyl allyl trisulfide	8.338	-
Diallyl trisulfide	18.287	-
Diallyl tetrasulfide	3.819	-

**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.



## **Vegetarian & Vegan Suitability Statement**

PRODUCT NAME: **Garlic Essential Oil**

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