



**CERTIFICATE OF ANALYSIS
ALDEHYDE C-12 LAURIC**

CAS#: 112-54-9

FEMA#: 2615

PRODUCT IDENTIFICATION

PRODUCT NAME	ALDEHYDE C-12 LAURIC
BATCH NO	4533002
BEST BEFORE END	02/2027
MOLECULAR FORM	C ₁₂ H ₂₄ O
MOLECULAR WT	184.32
MELTING POINT (C)	
BOILING POINT (C)	241 deg C
FLASH POINT (F)	212 deg F
SHELF LIFE (DAYS)	730

PHYSICAL SPECIFICATIONS

APPEARANCE	RANGE	RESULTS
ODOR	COLORLESS TO LIGHT YELLOW LIQUID (MAY SOLIDIFY AT ROOM TEMPERATURE)	CONFORMS
SPECIFIC GRAVITY (25C)	FATTY, CITRUS	CONFORMS
REFRACTIVE INDEX (20C)	0.8260 to 0.8360	0.8294
SOLUBILITY	1.4330 to 1.4390	1.4348
	SOLUBLE IN ALCOHOL, MOST FIXED OILS AND PROPYLENE GLYCOL	PASSES

ANALYTICAL SPECIFICATIONS

PURITY (BY GC)	RANGE	RESULTS
OTHER SPECIFICATIONS	92.0% MINIMUM	99.55%
ACID VALUE	RANGE	RESULTS
STABILITY	10.0 MAXIMUM	0.53

STABLE UNDER NORMAL CONDITIONS

STORAGE

STORE IN COOL DRY PLACE AWAY FROM HEAT AND SUNLIGHT.
SHELF LIFE CONSIDERATIONS APPLY ONLY FOR ORIGINAL UNOPENED CONTAINERS

FRAGRANCE ALLERGENS

MADAR Corporation Ltd hereby certifies that:

ALDEHYDE C-12

Contains the following fragrance allergens as detailed in the 7th Amendment to the EU Cosmetic Directive 76/768/EEC:

	Allergen	CAS number	Content %
1	Alpha isomethylionone	127-51-5	-
2	Amyl cinnamal	122-40-7	-
3	Amylcinnamyl alcohol	101-85-9	-
4	Anisyl alcohol	105-13-5	-
5	Benzyl alcohol	100-51-6	-
6	Benzyl benzoate	120-51-4	-
7	Benzyl cinnamate	103-41-3	-
8	Benzyl salicylate	118-58-1	-
9	Butylphenyl methylpropional (Lilial)	80-54-6	-
10	Cinnamal	104-55-2	-
11	Cinnamyl alcohol	104-54-1	-
12	Citral	5392-40-5	-
13	Citronellol	106-22-9	-
14	Coumarin	91-64-5	-
15	Eugenol	97-53-0	-
16	Farnesol	4602-84-0	-
17	Geraniol	106-24-1	-
18	Hexyl cinnamal	101-86-0	-
19	Hydroxycitronellal	107-75-5	-
20	Hydroxyisohexyl 3-cyclohexene carboxaldehyde (Lyral)	31906-04-4	-
21	Isoeugenol	97-54-1	-
22	Limonene	5989-27-5	-
23	Linalool	78-70-6	-
24	Methyl 2-octynoate	111-12-6	-
25	Evernia furfuracea (Treemoss) extract	90028-67-4	-
26	Evernia prunastri (Oakmoss) extract	90028-68-55	-

(All absent)



GMO CERTIFICATE

MADAR Corporation Ltd hereby certifies that:

ALDEHYDE C-12

to the best of its knowledge does not derive from a genetically modified source (GMO) as specified in Regulation (EC) No 1829/2003 nor have GMO materials been used in its manufacture or as additives.

Date of issue: 05/12/2018

IFRA CERTIFICATE

ALDEHYDE C-12

MADAR Corporation Ltd hereby certifies that the above material complies with the requirements of the INTERNATIONAL FRAGRANCE ASSOCIATION - IFRA-48th Amendment / published June 10th 2015) provided it is used in following application (class) at a maximum concentration level of:

IFRA category	Maximum level of use (%)
Class 1	Not restricted
Class 2	Not restricted
Class 3A	Not restricted
Class 3B	Not restricted
Class 3C	Not restricted
Class 3D	Not restricted
Class 4A	Not restricted
Class 4B	Not restricted
Class 4C	Not restricted
Class 4D	Not restricted
Class 5	Not restricted
Class 6	Not restricted
Class 7A	Not restricted
Class 7B	Not restricted
Class 8A	Not restricted
Class 8B	Not restricted
Class 9A	Not restricted
Class 9B	Not restricted
Class 9C	Not restricted
Class 10A	Not restricted
Class 10B	Not restricted
Class 11	Not restricted

The above values were calculated based on the following IFRA restricted materials: <none contained>

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.

It is the ultimate responsibility of our customer to ensure the safety of the final product by further testing if need be. Evaluation of the Fragrance ingredient was made according to the safety requirements contained in the relevant section of the IFRA Code of Practice.

IFRA category includes	IFRA category
Toys (****)	Class 1A
Lip Products of all types (solid and liquid lipsticks, balms, clear or coloured etc...)(****)	Class 1B
Deodorant and Antiperspirant products of all types (spray, stick, roll-on, under-arm and body etc...)	Class 2
Hydroalcoholic products applied to recently shaved skin (EdT range)	Class 3A
Hydroalcoholic products applied to recently shaved skin (fine fragrance range)	Class 3B
Eye Products of all types (eye shadow, mascara, eyeliner, eye make-up, etc...)	Class 3C
Men's Facial Creams, Balms, Wipes, Refreshing Tissues	
Tampons	Class 3D
Hydroalcoholic Products applied to unshaved skin (EdT range)	Class 4A
Ingredients of Perfume Kits, Scent Strips for Hydroalcoholic Products, "scratch and sniff", other paper products	
Hydroalcoholic Products applied to unshaved skin, Fine Fragrance range	Class 4B
Hair Styling Aids Sprays of all types (pumps, aerosol sprays, etc...). Hair Deodorant	Class 4C
Body Creams, Oils, Lotions of all types (including baby creams, lotions, oils)	
Fragrance Compounds for Cosmetic Kits, Foot Care Products	
Fragrancing Creams of all types	Class 4D
Women's Facial Creams/Facial Make-up/Facial Wipes. Facial Masks, Hand Cream	Class 5A
Mouthwash, Toothpaste (****)	Class 6
Intimate Wipes, Baby Wipes, Insect Repellent intended to be applied on the skin	Class 7
Make-up Removers of all types (not including face cleansers)	Class 8
Hair Styling Aids Non-Spray of all types (mousse, gels, leave-in conditioners etc...)	
Nail Care, all Powders & Talcs (including baby powders and talcs)	
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 9A
Feminine pads/Liners	Class 9B
Aerosols (including air fresheners sprays but not including deodorant/antiperspirants, hair styling aids spray)	Class 9C
Hand wash/Machine Wash Laundry Detergents of all types (liquid, powder, tablet, etc...) including Laundry Bleaches Other Household Cleaning Products (fabric cleaners, soft surface cleaners, carpet cleaners etc...), Dry Cleaning Kits Fabric Softeners of all types including softener sheets. Hand Dishwashing Detergent. Hard Surface Cleaners of all types (bathroom and kitchen cleansers, furniture polish etc...), Shampoos for pets	Class 10A
Diapers	Class 10B
All non-skin contact, including: Air Fresheners and fragrancing of all types (excluding aerosol products): 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.	Class 11A
All incidental skin contact, including: Machine Dish wash Detergents and Deodorizers. Machine only Laundry Detergents (e.g. liquid tabs) Deodorizers/Maskers (e.g. fabric drying machine deodorizers, carpet powder) Pot pourri, fragrancing sachets, liquid refills for air fresheners, etc... Shoe polishes; Cat Litter; Animal Sprays (excluding aerosols); Treated Textiles; Odoured Distilled Water	Class 11B

(****) Fragrance materials for use in these applications need also FEMA-GRAS conformity.

CERTIFICATE OF ORIGIN

MADAR Corporation Ltd hereby certifies that:

ALDEHYDE C-12

Originates from and is produced in the UK.

Date of issue: 14/12/2018



Safety Data Sheet

This safety data sheet complies with the requirements of:
Regulation (EC) No. 1907/2006 and Regulation (EC) No. 1272/2008

Product name ALDEHYDE C-12

Issue date 09-Jun-2016

Revision date 15-Jun-2018

Version 3

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

1.1. Product Identifier

<i>Product name</i>	ALDEHYDE C-12
REACH registration number	01-2119969441-33-0004
EC No.	203-983-6
CAS No	112-54-9
Chemical Name	Dodecanal
Synonyms	Lauric aldehyde
Pure substance/mixture	Substance
Contains Aldehyde C-12	
Formula	C12H24O
Molecular weight	184.32

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

Sold to the general public?	No
Recommended Use	Industry Use
Uses advised against	No information available

1.3. Details of the supplier of the safety data sheet

Supplier

MADAR Corporation Ltd
19-20 Sandleheath Industrial Estate
Fordingbridge
Hampshire
SP6 1PA

Tel: (+44) 1425 655555

E-mail address sales@madarcorporation.co.uk

1.4. Emergency telephone number

Emergency telephone 01425 655555

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Skin corrosion/irritation	Category 2 - (H315)
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Serious eye damage/eye irritation	Category 2 - (H319)
Skin sensitization	Category 1B - (H317)

2.2. Label Elements**Product identifier**

Contains Aldehyde C-12

**Signal word**

Warning

Hazard statements

H315 - Causes skin irritation

H317 - May cause an allergic skin reaction

H319 - Causes serious eye irritation

Precautionary Statements

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P321 - Specific treatment (see supplemental instructions on the administration of antidotes on this label)

P321 - Specific treatment (see .? on this label)

P280 - Wear eye protection/ face protection

2.3. Other Hazards**SECTION 3: Composition/information on ingredients****3.1 Substances****Chemical nature**

Aliphatic aldehyde.

Chemical Name	EC No.	CAS No.	Weight-%	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH registration number
Aldehyde C-12	Present	112-54-9	98% Min	Skin Irrit. 2 (H315) (EFFA) Skin Sens. 1B (H317)(EFFA) Eye Irrit. 2 (H319)(EFFA)	No data available
Lauryl Alcohol	Present	112-53-8	0.1 < 1%	Aquatic Acute 1 (H400) (EFFA) Eye Irrit. 1 (H319) (EFFA)	No data available

Full text of H- and EUH-phrases: see section 16

SECTION 4: First aid measures**4.1. Description of first aid measures****Inhalation**

Remove to fresh air.

Skin contact

IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.

Eye Contact IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Ingestion IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

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

Note to physicians Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media

Use CO₂, dry chemical, or foam

Unsuitable extinguishing media

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

5.2. Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating and toxic gases and vapors

Hazardous combustion products Irritating or toxic substances may be emitted upon burning, combustion, or decomposition.

5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective suit. Use personal protective equipment as required.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions

Avoid contact with skin, eyes or clothing. Use personal protection recommended in Section 8. Stop leak if you can do it without risk.

For emergency responders

Use personal protection recommended in Section 8.

6.2. Environmental precautions

Collect spillage.

6.3. Methods and material for containment and cleaning up

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. Use personal protective equipment as required. Dam up. Take up mechanically, placing in appropriate containers for disposal. Clean contaminated surface thoroughly.

6.4. Reference to other sections

See Section 12: ECOLOGICAL INFORMATION.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Avoid contact with skin, eyes or clothing. Ensure adequate ventilation, especially in confined areas. Use personal protection recommended in Section 8.

General hygiene considerations

Do not eat, drink or smoke when using this product. Avoid contact with skin, eyes or clothing. Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions

Protect from direct sunlight. Keep containers tightly closed in a dry, cool and well-ventilated place.

7.3. Specific end use(s)

Risk Management Methods (RMM)

The information required is contained in this Material Safety Data Sheet.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Chemical Name	European Union	United Kingdom	France	Spain	Germany
Lauryl Alcohol 112-53-8	-	-	-	-	TWA: 20 ppm TWA: 155 mg/m ³

Derived No Effect Level (DNEL) No information available

Predicted No Effect Concentration (PNEC) No information available

8.2. Exposure controls

Engineering controls Showers
Eyewash stations
Ventilation systems

Personal Protective Equipment

Eye/Face Protection Avoid contact with eyes. Wear safety glasses with side shields (or goggles).
Hand protection Wear protective gloves.
Skin and Body Protection Wear suitable protective clothing.
Respiratory protection Ensure adequate ventilation, especially in confined areas.

Environmental exposure controls No information available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid	Odor	Characteristic Odor
Appearance	Clear	Odor threshold	Not applicable
Color	Colorless to Pale Yellow		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH		
Melting point / freezing point	12 °C / 54 °F	

Boiling point / boiling range	239 °C / 462 °F	
Flash Point	> 100 °C / > 212 °F	
Evaporation Rate		
Flammability (solid, gas)		
Flammability Limit in Air		
Upper flammability limit:		
Lower flammability limit:		
Vapor pressure	0.0007kPa	(20°C)
Vapor Density		
Specific gravity	0.826 - 0.836	(25°C)
Water solubility		
solubility(ies)		
Partition coefficient	4.9	n-octanol/water
Autoignition Temperature	205 °C / 401 °F	
Decomposition temperature		
Kinematic viscosity		
Dynamic viscosity		
Explosive properties	Not an explosive	
Oxidizing properties	Not oxidising	
9.2. Other information		
Molecular weight	184.32	
VOC content (%)	Not applicable	
Density	Not applicable	
Bulk Density	Not applicable	

SECTION 10: Stability and reactivity

10.1. Reactivity

10.2. Chemical stability

Stable under recommended storage conditions.

Explosion data

Sensitivity to Mechanical Impact	None.
Sensitivity to Static Discharge	None.

10.3. Possibility of hazardous reactions

Possibility of Hazardous Reactions

None under normal processing.

10.4. Conditions to avoid

Extremes of temperature and direct sunlight.

10.5. Incompatible materials

No information available.

10.6. Hazardous decomposition products

None under normal use conditions.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

Product Information

Product does not present an acute toxicity hazard based on known or supplied information.

Inhalation	Avoid breathing vapors or mists.
Eye Contact	Avoid contact with eyes. Causes serious eye irritation.
Skin contact	Avoid contact with skin. Irritating to skin. May cause an allergic skin reaction.
Ingestion	May cause irritation.

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral) >2,000.00 mg/kg

ATEmix (dermal) >2,000.00 mg/kg

Unknown acute toxicity

0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Aldehyde C-12	= 23 g/kg (Rat)		
Lauryl Alcohol	> 12800 mg/kg (Rat)		

Skin corrosion/irritation	Irritating to skin.
Serious eye damage/eye irritation	Causes serious eye irritation.
Sensitization	May cause sensitization by skin contact.
Germ cell mutagenicity	Not classified.
Carcinogenicity	None known.
Reproductive toxicity	This product does not contain any known or suspected reproductive hazards above the threshold value.
STOT - single exposure	Not classified.
STOT - repeated exposure	Not classified.
Aspiration hazard	Not classified.

SECTION 12: Ecological information

12.1. Toxicity

None known

100 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical Name	Crustacea	Algae/aquatic plants	Fish
Aldehyde C-12	48 hr EC50 - >0.27 mg/L (>solubility limit)	72 hr EC50 - >0.048 mg/L (>solubility limit)	96 hr LC50 - 2.6 mg/L (>solubility limit)
Lauryl Alcohol	320: 48 h Daphnia magna mg/L EC50		1.01: 96 h Pimephales promelas mg/L LC50 flow-through 0.1855: 96 h Pimephales promelas mg/L LC50

12.2. Persistence and degradability

Readily biodegradable.

12.3. Bioaccumulative potential

Low potential for bioaccumulation.

Bioconcentration factor (BCF) 34-711 L/kg

Chemical Name	Partition coefficient
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Aldehyde C-12	4.9
Lauryl Alcohol	5.36

12.4. Mobility in soil**Mobility in soil**

3,981 (Koc/Kow)

12.5. Results of PBT and vPvB assessment

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).

12.6. Other adverse effects

No information available

SECTION 13: Disposal considerations**13.1. Waste treatment methods**

Waste from Residues/Unused Products Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not reuse container.

SECTION 14: Transport information**IMDG**

14.1 UN/ID no Not regulated
 14.2 Proper Shipping Name Not regulated
 14.3 Hazard Class Not regulated
 14.4 Packing group Not regulated
 14.5 Marine pollutant Not applicable
 14.6 Special Provisions None
 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code No information available

RID

14.1 UN/ID no Not regulated
 14.2 Proper Shipping Name Not regulated
 14.3 Hazard Class Not regulated
 14.4 Packing group Not regulated
 14.5 Environmental hazard Not applicable
 14.6 Special Provisions None

ADR

14.1 UN/ID no Not regulated
 14.2 Proper Shipping Name Not regulated
 14.3 Hazard Class Not regulated
 14.4 Packing group Not regulated
 14.5 Environmental hazard Not applicable
 14.6 Special Provisions None

ICAO (air)

14.1 UN/ID no Not regulated
 14.2 Proper Shipping Name Not regulated
 14.3 Hazard Class Not regulated
 14.4 Packing group Not regulated
 14.5 Environmental hazard Not applicable

14.6 Special Provisions None

IATA

14.1 UN/ID no Not regulated
14.2 Proper Shipping Name Not regulated
14.3 Hazard Class Not regulated
14.4 Packing group Not regulated
14.5 Environmental hazard Not applicable
14.6 Special Provisions None

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****European Union**

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Authorization and/or restrictions on use:

This product does not contain substances subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Persistent Organic Pollutants

Not applicable

Ozone-depleting substances (ODS) regulation (EC) 1005/2009 Not applicable

15.2. Chemical safety assessment

No information available

SECTION 16: Other information**Full text of H-Statements referred to under section 3**

H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H400 - Very toxic to aquatic life

Key literature references and sources for data

Key Source: European Chemicals Agency, <http://echa.europa.eu>

Issue date 09-Jun-2016

Revision date 15-Jun-2018

Revision note Not applicable.

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

Disclaimer

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. Classification and labeling according to the IFRA/IOFI Labeling Manual 2017.



PRODUCT SPECIFICATION

CAS#: 112-54-9

ALDEHYDE C-12 LAURIC

FEMA#: 2615

PRODUCT IDENTIFICATION

PRODUCT NAME	ALDEHYDE C-12 LAURIC
MOLECULAR FORM	C12H24O
MOLECULAR WT	184.32
MELTING POINT (C)	
BOILING POINT (C)	241 deg C
FLASH POINT (F)	212 deg F
SHELF LIFE (DAYS)	730

PHYSICAL SPECIFICATIONS	RANGE	METHOD
APPEARANCE	COLORLESS TO LIGHT YELLOW LIQUID (MAY SOLIDIFY AT ROOM TEMPERATURE)	VISUAL
ODOR	FATTY, CITRUS	ORGANOLEPTIC
SPECIFIC GRAVITY (25C)	0.8260 to 0.8360	FCC METHOD
REFRACTIVE INDEX (20C)	1.4330 to 1.4390	FCC METHOD
SOLUBILITY	SOLUBLE IN ALCOHOL, MOST FIXED OILS AND PROPYLENE GLYCOL	FCC METHOD

ANALYTICAL SPECIFICATIONS	RANGE	METHOD
PURITY (BY GC)	92.0% MINIMUM	CHEM_20.M

OTHER SPECIFICATIONS	RANGE	METHOD
ACID VALUE	10.0 MAXIMUM	FCC METHOD

STABILITY

STABLE UNDER NORMAL CONDITIONS

STORAGE

STORE IN COOL DRY PLACE AWAY FROM HEAT AND SUNLIGHT.
SHELF LIFE CONSIDERATIONS APPLY ONLY FOR ORIGINAL UNOPENED CONTAINERS

Date Revised: 15/09/2017



VEGAN / VEGETARIAN DECLARATION

MADAR Corporation Ltd. hereby certifies that:

ALDEHYDE C-12

to the best of our knowledge is suitable for both vegan and vegetarian diets.

Date of issue: 05/12/2018