

CAS#: 77-83-8

FEMA#: 2444

| PRODUCT | IDENTIF | ICATION |
|---------|---------|---------|
|---------|---------|---------|

| PRODUCT NAME | ALDEHYDE C-16 |
|-------------------|-------------------|
| BATCH NUMBER | 4418102 |
| BEST BEFORE END | DECEMBER 2022 |
| MOLECULAR FORM | C12 H14 O3 206.24 |
| MOLECULAR WT | |
| MELTING POINT (C) | 260 deg C |
| BOILING POINT (C) | 268 deg F |
| FLASH POINT (F) | |
| | |

| PHYSICAL SPECIFICATIONS | RANGE | RESULTS |
|---|---|--|
| APPEARANCE ODOUR SPECIFIC GRAVITY (25c) REFRACTIVE INDEX (20c) SOLUBILITY | COLORLESS TO PALE YELLOW LIQUID STRONG FRUITY STRAWBERRY-LIKE 1.0860 to 1.0960 1.5040 to 1.5130 SOLUBLE IN MOST FIXED OILS, PROPYELNE GLYCOL INSOLUBLE IN GLYCERINE | CONFORMS CONFORMS 1.09O8 1.5052 |
| ANALYTICAL SPECIFICATIONS | RANGE | RESULTS |
| PURITY (BY GC) | 98.0% MIN (SUM OF CIS/TRANS ISOMERS) | 98.53% |
| OFUED OFFICIATIONS | | |
| OTHER SPECIFICATIONS | RANGE | RESULTS |
| SOLUBILITY IN ALCOHOL ACID VALUE | RANGE 1ML IN 3ML 70% ALC 2.0 MAX | CONFORMS |

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

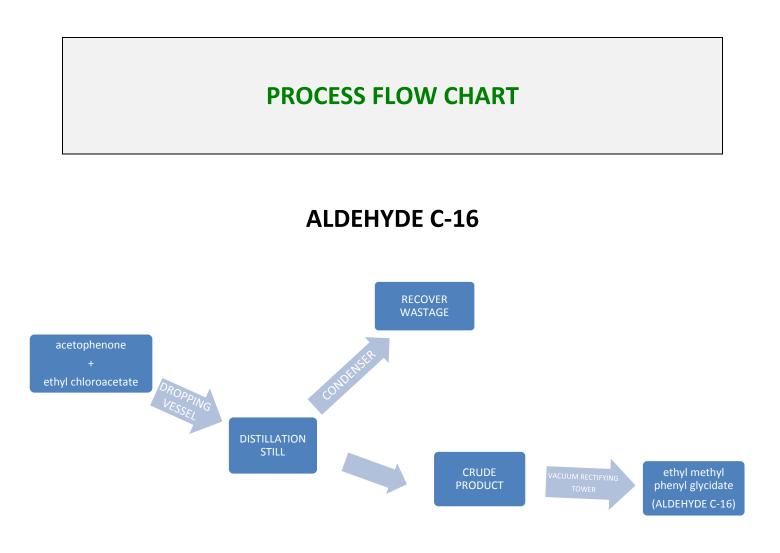
ALDEHYDE C-16

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)





MADAR Corporation Ltd hereby certifies that the products has no added antioxidants, dilutents, colorants or preservatives.



GMO CERTIFICATE

ALDEHYDE C-16

to the best of our 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. It requires no special labelling or traceability with regards to GMO as outlined in Regulation (EC) No 1830/2003.

Date of issue: 15/08/2019



IFRA CERTIFICATE

ALDEHYDE C-16

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 |
| Insect Repellent intended to be applied on the skin 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) Men's Facial Creams, Balms, Wipes, Refreshing Tissues | Class 3C |
| Tampons | Class 3D |
| Hydroalcoholic Products applied to unshaved skin (EdT range) Ingredients of Perfume Kits, Scent Strips for Hydroalcoholic Products, "scratch and sniff", other paper products | Class 4A |
| Hydroalcoholic Products applied to unshaved skin, Fine Fragrance range | Class 4B |
| Hair Styling Aids Sprays of all types (pumps, aerosol sprays, etc). Hair Deodorant Body Creams, Oils, Lotions of all types (including baby creams, lotions, oils) Fragrance Compounds for Cosmetic Kits, Foot Care Products | Class 4C |
| 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 | Class 7 |
| 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 & Talcs (including baby powders and talcs) | Class 8 |
| 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, etcexcluding 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. liquitabs) 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 (****) Fragrance materials for use in these applications need also FEMA-GRAS conformity. | Class 11B |



CERTIFICATE OF ORIGIN

MADAR Corporation Ltd hereby certifies that:

ALDEHYDE C-16

Originates from and is produced in China.



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

Product name ALDEHYDE C-16

Issue date 19-May-2016

Revision date 14-Dec-2018

Version 1

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

1.1. Product Identifier

Product name

ALDEHYDE C-16

| REACH registration number EC No. CAS No Chemical Name Synonyms Pure substance/mixture Contains Aldehyde C-16 | 01-2119967770-28-XXXX 201-061-8 77-83-8 Ethyl 2,3-epoxy-3-phenylbutyrate Strawberry aldehyde / Ethyl methyl phenyl glycidate Substance |
|--|---|
| Formula | C12H14O3 |
| Molecular weight | 206.24 |

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

For further information, please contact

E-mail address 1.4. Emergency telephone number

technical@madarcorporation.co.uk

Emergency telephone

CHEMTREC

| Emergency telephone | - +1-703-741-5970 |
|---------------------|-------------------|
| Europe | CCN# 17256 |

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Skin sensitization

Category 1B - (H317)

Chronic aquatic toxicity

Category 2 - (H411)

2.2. Label Elements **Product identifier** Contains Aldehyde C-16



Signal word Warning

Hazard statements

H317 - May cause an allergic skin reaction H411 - Toxic to aquatic life with long lasting effects

Precautionary Statements

P280 - Wear protective gloves/protective clothing/eye protection/face protection P264 - Wash hands thoroughly after handling P302 + P352 - IF ON SKIN: Wash with plenty of soap and water P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention P273 - Avoid release to the environment

P501 - Dispose of contents/ container to an approved waste disposal plant

2.3. Other Hazards

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical nature

Cyclic ether.

| Chemical Name | EC No. | CAS No. | Weight-% | Classification according to Regulation (EC) No. 1272/2008 [CLP] | REACH registration number |
|---|---------|---------|-------------|---|---------------------------------|
| Aldehyde C-16 | Present | 77-83-8 | 98% Min | Aquatic Acute 2 (H401) (EFFA) Skin Sensit. 1 (H317) (EFFA) Aquatic Chronic 2 (H411) (EFFA) | No data available |
| Acetophenone - indirect synthetic impurity | Present | 98-86-2 | 0.01 - <0.1 | Acute Tox. 4 (H302) Eye Irrit. 1 (H319) (EFFA) Acute Tox. 4 (H302) (EFFA) Eye Irrit. 2 (H319) | 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. Immediate medical attention is not required. | |
|---|---|--|
| Skin contact | Wash off immediately with soap and plenty of water. Wash contaminated clothing before reuse. If symptoms persist, call a physician. | |
| Eye Contact | Rinse thoroughly with plenty of water, also under the eyelids. Immediate medical attention is not required. If eye irritation persists: Get medical advice/attention. | |
| Ingestion | Drink 1 or 2 glasses of water. Clean mouth with water. Immediate medical attention is not required. | |
| 4.2. Most important symptoms and effects, both acute and delayed | | |
| Symptoms | Redness / rash on skin. | |
| 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 Dry chemical, CO2, water spray or alcohol-resistant 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. Stop leak if you can do it without risk. Use personal protection recommended in Section 8.

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. Take up |

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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. Use personal protection recommended in Section 8. Do not eat, drink or smoke when using this product. Handle in accordance with good industrial hygiene and safety practice.

General hygiene considerations

Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.

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. Keep out of the reach of children.

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 |
|--|----------------|----------------|--|--|---|
| Acetophenone - indirect synthetic impurity 98-86-2 | - | - | - | TWA: 10 ppm TWA: 50 mg/m ³ | - |
| Chemical Name | Italy | Portugal | Netherlands | Finland | Denmark |
| Acetophenone - indirect synthetic impurity 98-86-2 | - | TWA: 10 ppm | - | TWA: 5 ppm TWA: 25 mg/m ³ | TWA: 10 ppm TWA: 49 mg/m³ |
| Chemical Name | Austria | Switzerland | Poland | Norway | Ireland |
| Acetophenone - indirect synthetic impurity 98-86-2 | - | - | STEL: 100 mg/m ³ TWA: 50 mg/m ³ | - | TWA: 10 ppm TWA: 49 mg/m ³ STEL: 30 ppm STEL: 147 mg/m ³ |

Derived No Effect Level (DNEL) Workers

| dermal | 0.7 mg/kg bw/day |
|--------------------------------|------------------------|
| Inhalation | 2.45 mg/m ³ |
| Derived No Effect Level (DNEL) | General Population |
| oral | 0.35 mg/kg bw/day |
| dermal | 0.35 mg/kg bw/day |
| Inhalation | 0.61 mg/m³ |

Predicted No Effect Concentration (PNEC)

| Fresh Water | 0.008 mg/L |
|---|---|
| Sea Water | 8.4 μg/L |
| Sea sediment | 0.021 mg/kg sediment dw |
| Soil | 0.038 mg/kg soil dw |
| Impact on Sewage Treatment | 10 mg/L |
| 8.2. Exposure controls | |
| Engineering controls | Showers Eyewash stations Ventilation systems Ensure adequate ventilation, especially in confined areas |
| Personal Protective Equipment Eye/Face Protection Hand protection Skin and Body Protection Respiratory protection | Wear safety glasses with side shields (or goggles). Wear protective nitrile rubber gloves. Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact. No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. |
| Environmental exposure controls | Prevent product from entering drains. |

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| Physical state | Liquid | | |
|--|--------------------------------------|------------------|---------------------|
| Appearance | Clear | Odor | Characteristic Odor |
| Color | Colorless | Odor threshold | Not applicable |
| D | | | |
| Property | Values | Remarks • Method | |
| pH Molting point (freesing point | | | |
| Melting point / freezing point | < -50 °C / -58 °F 302 °C / 576 °F | | |
| Boiling point / boiling range Flash Point | 131 °C / > 212 °F | | |
| | 131 C/ 212 F | | |
| Evaporation Rate | | | |
| Flammability (solid, gas) | | | |
| Flammability Limit in Air | | | |
| Upper flammability limit: | | | |
| Lower flammability limit: | 0.000001-D- | (00%0) | |
| Vapor pressure | 0.00023kPa | (20°C) | |
| Vapor Density | 1.096 1.006 | $(25^{\circ}C)$ | |
| Specific gravity | 1.086 - 1.096 0.96 g/L | (25°C) (20°C) | |
| Water solubility | 0.90 g/L | (20 C) | |
| solubility(ies) Partition coefficient | | | |
| Autoignition Temperature | 350 - 360 °C / 662 - 680 °F | | |
| Decomposition temperature | 330 - 300 8 7 002 - 000 1 | | |
| Kinematic viscosity | | | |
| Dynamic viscosity | 19.1 mm²/s | (20°C) | |
| Explosive properties | Not an explosive | (20 0) | |
| Oxidizing properties | Not oxidising | | |
| exicizing properties | Not oxidionity | | |
| 9.2. Other information | | | |
| Molecular weight | 206.24 | | |
| VOC content (%) | 0.04 | | |
| Density | 1.093 g/mL | | |
| | 5 | | |

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. Keep out of reach of children.

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

| Inhalation | Avoid breathing vapors or mists. |
|--------------|---|
| Eye Contact | Avoid contact with eyes. |
| Skin contact | Avoid contact with skin. May cause an allergic skin reaction. |
| Ingestion | No known hazard by swallowing. |

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

| ATEmix (oral) | >5,000.00 mg/kg |
|------------------------|-----------------|
| ATEmix (dermal) | >2,000.00 mg/kg |
| Unknown acute toxicity | |

| Chemical Name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|-----------------------------------|--------------------------------|-----------------------|----------------------|
| Aldehyde C-16 | = 5470 mg/kg (Rat) | | |
| Acetophenone - indirect synthetic | = 815 mg/kg (Rat)= 900 mg/kg (| = 1760 mg/kg (Rabbit) | >2.130 mg/L (Rat)8 h |
| impurity | Rat) | | |

| Skin corrosion/irritation Not exp | pected to cause skin irritation. |
|-----------------------------------|----------------------------------|
|-----------------------------------|----------------------------------|

| Serious eye damage/eye irritation | Not classified. |
|-----------------------------------|-----------------|
|-----------------------------------|-----------------|

Sensitization

May cause sensitization by skin contact.

| Germ cell mutagenicity | Not classified. |
|--------------------------|--|
| Carcinogenicity | Not classified. |
| 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

Toxic to aquatic life with long lasting effects

2.49 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

| Chemical Name | Crustacea | Algae/aquatic plants | Fish |
|---|-------------------------------|-----------------------------------|---|
| Aldehyde C-16 | 48 hr EC₅₀ - 52 mg/L (Daphnia | 96 hr E C₅₀ - 42 mg/L | 96h LC₅₀ = 4.2 mg/L - Rainbow |
| _ | magna) | (Pseudokirchneriella subcapitata) | Trout (Oncorhynchus mykiss) |
| Acetophenone - indirect synthetic impurity | | | 162: 96 h Pimephales promelas mg/L LC50 flow-through 155: 96 h |
| | | | Pimephales promelas mg/L LC50 static |

12.2. Persistence and degradability

Inherently biodegradable, fulfilling specific criteria.

12.3. Bioaccumulative potential

Low potential for bioaccumulation.

| Chemical Name | Partition coefficient | |
|--|-----------------------|--|
| Acetophenone - indirect synthetic impurity | 1.7 | |

12.4. Mobility in soil

Mobility in soil

log Koc 2.34 - 2.74

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 | Disposal should be in accordance with applicable regional, national and local laws and |
|----------------------------|--|
| Products | regulations. |

Contaminated packaging Do not reuse container.

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Page 14 of 18

SECTION 14: Transport information

| IMDG 14.1 UN/ID no 14.2 Proper Shipping Name 14.3 Hazard Class 14.4 Packing group 14.5 Marine pollutant Environmental hazard 14.6 Special Provisions EmS-No 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code | 3082 Environmentally Hazardous Substance, liquid n.o.s. 9 III This material meets the definition of a marine pollutant Yes 274, 335, 969 F-A, S-F IBC02 |
|--|---|
| <u>RID</u> 14.1 UN/ID no 14.2 Proper Shipping Name 14.3 Hazard Class 14.4 Packing group 14.5 Environmental hazard 14.6 Special Provisions | 3082 Environmentally Hazardous Substance, liquid n.o.s. 9 III Yes None |
| ADR 14.1 UN/ID no 14.2 Proper Shipping Name 14.3 Hazard Class 14.4 Packing group 14.5 Environmental hazard 14.6 Special Provisions Classification code Tunnel restriction code | 3082 Environmentally Hazardous Substance, liquid n.o.s. 9 III Yes 274, 335, 375, 601 M6 (-) |
| ICAO (air) 14.1 UN/ID no 14.2 Proper Shipping Name 14.3 Hazard Class 14.4 Packing group 14.5 Environmental hazard 14.6 Special Provisions | 3082 Environmentally Hazardous Substance, liquid n.o.s. 9 III Yes None |
| IATA 14.1 UN/ID no 14.2 Proper Shipping Name 14.3 Hazard Class 14.4 Packing group 14.5 Environmental hazard 14.6 Special Provisions ERG Code | 3082 Environmentally Hazardous Substance, liquid n.o.s. 9 III Yes A97, A158, A197 9L |

SECTION 15: Regulatory information

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

| Chemical Name | French RG number | Title |
|---|------------------|-------|
| Acetophenone - indirect synthetic impurity 98-86-2 | RG 84 | - |

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

H302 - Harmful if swallowed

H317 - May cause an allergic skin reaction

H319 - Causes serious eye irritation

H401 - Toxic to aquatic life

H411 - Toxic to aquatic life with long lasting effects

Key literature references and sources for data

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

| Issue date | 19-May-2016 |
|---------------|-----------------|
| Revision date | 14-Dec-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.

End of Safety Data Sheet



| CAS#:77-83-8 | ALD HYDE C-16 RE CH REGISTERED | FEMA#: 2444 | | |
|--|---|--|--|--|
| PRODUCT IDENTIFICATION | | | | |
| PRODUCT NAME | ALDEHYDE C-16 REACH REGISTERED | | | |
| MOLECULAR FORM | C12H14O3 | | | |
| MOLECULAR WT | 206.24 | | | |
| MELTING POINT (C) | | | | |
| BOILING POINT (C) | 260 deg C | | | |
| FLASH POINT (F) | 268 deg F | | | |
| SHELF LIFE (DAYS) | 730 | | | |
| PHYSICAL SPECIFICATIONS | RANGE | METHOD | | |
| APPEARANCE ODOR SPECIFIC GRAVITY (25C) REFRACTIVE INDEX (20C) SOLUBILITY | COLORLESS TO PALE YELLOW LIQUID STRONG FRUITY STRAWBERRY-LIKE 1.0860 to 1.0960 1.5040 to 1.5130 SOLUBLE IN MOST FIXED OILS, PROPYELNE GLYCOL, INSOLUBLE IN GLYCERINE | VISUAL ORGANOLEPTIC FCC METHOD FCC METHOD FCC METHOD | | |
| ANALYTICAL SPECIFICATIONS | RANGE | METHOD | | |
| PURITY (BY GC) | 98.0% MIN (SUM OF CIS/TRANS ISOMERS) | CHEM_20.M | | |
| OTHER SPECIFICATIONS | RANGE | METHOD | | |
| SOLUBILITY IN ALCOHOL ACID VALUE | 1ML IN 3ML 70% ALC 2.0 MAX | FCC METHOD FCC METHOD | | |
| STABILITY | | | | |
| STABLE UNDER NORMAL CONDITIONS | | | | |
| STORAGE | | | | |
| STORE IN COOL DRY PLACE AWAY FROM HEAT AND SUNLIGHT | | | | |

STORE IN COOL DRY PLACE AWAY FROM HEAT AND SUNLIGHT

PRODUCT SPECIFICATION

Date Revised: 19/03/2018



VEGAN / VEGETARIAN DECLARATION

ALDEHYDE C-16

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

Date of issue: 21/01/2019