



Specification Issue 6 dated: 08/02/2021

CERTIFICATE OF ANALYSIS

Batch: 4424906

ALDEHYDE C18

Best Before End: February 2023

TEST	REQUIREMENT	RESULT
Appearance	: Colourless to pale yellow liquid	: Conforms
Odour	: Coconut-like.	: Conforms
Refractive index @ 20°C	: 1.4440 to 1.4500	: 1.4463
Specific gravity @ 20°C	: 0.9600 to 0.9800	: 0.9673
Purity	: >98%	: 99.02%

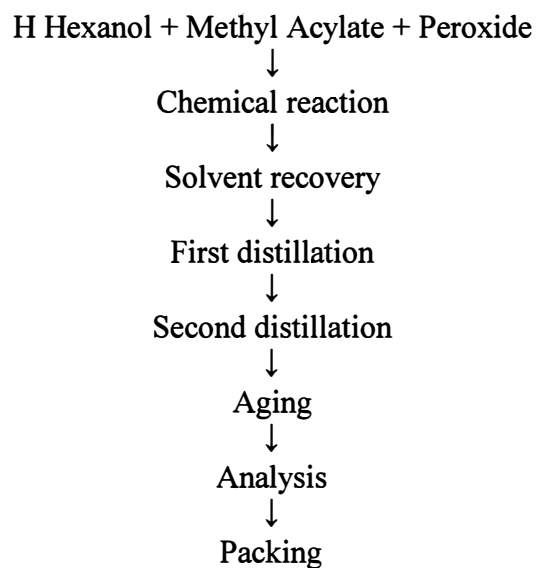


11th September 2019

Please find below a Production flow chart for the following material:-

Product

Aldehyde C18



This datasheet is prepared in accordance with EU regulations 1907/2006 and 453/2010

Section 1 Identification of the mixture and of the company

1.1 Product Identifier

Name of material: Nonan-4-olide
REACH registration number: 01-2119959335-30-xxxx
IUPAC name: 5-pentyloxolan-2-one

1.2 Relevant identified uses of the mixture and uses advised against

Fragrances and flavours

1.3 Details of the supplier of the safety data sheet

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

Tel: +44 (0)1425 655555
technical@madarcorporation.co.uk

1.4 Emergency telephone number

+44 (0)1425 655555 (office hours only)

Section 2 Hazards Identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Not hazardous according
to EC 1272/2008

2.2 Label elements

Symbols:

Signal word :

Hazard statements :

Precaution statements :

2.3 Other hazards

None known

Section 3 Composition/Information on Ingredients

3.1 Substance

Identifiers:

Name of material: Nonan-4-olide

Characterisation: Hetrocyclic compounds with oxygen hetro atoms only

CAS number: 104-61-0

EC number: 203-219-1

Information on constituents present at >1% contributing to the hazard classification

For full text of H phrases and hazard abbreviations see section 16

3.2 Mixtures - not applicable

Section 4 First Aid Measures

4.1 Description of first aid measures

4.1.1 General information

In case of accident or if you feel unwell, seek medical advice immediately (show label or SDS if possible).

Inhalation :	In the case of excessive inhalation move the exposed person to fresh air and keep at rest in a comfortable position. If symptoms persist get prompt medical attention.
Skin contact :	Remove/take off and wash all contaminated clothing. Wash off skin immediately with plenty of water, using soap if available. If there is any sign of tissue damage or persistent irritation, get medical advice.
Eye contact :	Rinse the eyes immediately with plenty of water. If there is any sign of tissue damage or persistent irritation, get prompt medical attention.
Ingestion :	Rinse mouth with water. If they are conscious, have exposed person drink 200 ml of water. Do not induce vomiting. Obtain medical advice.

4.1.2 Extra information

Refer to section 4.1.1 to determine if any immediate medical attention is required; whether remove of the person to fresh air; or removal of shoes and clothing is recommended.

Delayed effects after exposure – Unknown

First aid responders should refer to section 2.2 for details of recommended personal protective equipment

4.2 Most important symptoms and effects, both acute and delayed

The most important symptoms and effects are described in section 2.2 (and on the label). Toxicological effects are described in section 11 of this data sheet.

4.3 Indication of immediate medical attention and special treatment needed

Treat symptomatically

Section 5 Firefighting measures

5.1 Extinguishing media

Extinguish with carbon dioxide, dry powder or foam
Do not use direct water jet

5.2 Special hazards arising from the substance or mixture

As a result of combustion or thermal decomposition dangerous products (CO, CO₂, NO_x) and toxic gases can be formed.

5.3 Advice for fire fighters

Wear self-contained breathing apparatus and full body protection
Cool containers exposed to fire with water spray
Collect contaminated fire extinguishing water separately, do not discharge into drains.

Section 6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Follow precautions for the safe handling of this material as described by this safety data sheet. Provide adequate ventilation. Avoid flames or other sources of ignition. Avoid inhalation of vapours. Avoid contact with skin and eyes.

6.2 Environmental precautions

Contain the spillage as far as possible. Do not allow any spillage to enter drains or local water courses. Notify the relevant authority if material contaminates either of these.

6.3 Methods and material for containment and cleaning up

Remove all sources of ignition, provide effective ventilation. Absorb material with inert, non-combustible material (sand, earth, vermiculite). Transfer to a suitable container for disposal. Dispose according to local/national regulation (see section 13).
Clean spill site after material disposal is complete.

6.4 Reference to other sections

See sections 8 and 13

Section 7 Handling and storage

7.1 Precautions for safe handling

Ensure that the working area is well ventilated. Maintain order and cleanliness. Fully control sources of ignition. Avoid contact with eyes and skin. Wear protective clothing and glasses. Do not breathe vapours. Clean all spillages immediately (see section 6).
Observe good hygiene practices. Do not eat, drink or smoke in work areas. Wash hands after use and before breaks. Remove any contaminated clothing and wash before reuse.

7.2 Conditions for safe storage, including an incompatibilities

Store in full, dry, airtight containers below -20 °C, away from sources of heat and light

7.3 Specific end uses

Data not available.

Section 8 Exposure controls/personal protection

8.1 Control parameters

No specific exposure limits found

8.2 Exposure controls

General work place measures

Wear protective work clothing and footwear. Do not eat, drink or smoke whilst working. Ensure the working area is well ventilated. Provide access to emergency showers and eye wash stations.

Eye/face protection

Wear tightly fitting goggles.

Skin protection

Wear suitable protective gloves of nitrile or butyl-rubber composition.

Respiratory protection

If the working area is well ventilated, no specific respiratory protective equipment is required.

Environmental exposure controls

Do not allow material to enter drains or local water courses. Avoid subsoil penetration. If materials contaminate the local environment, contact the relevant authorities.

Section 9 Physical/chemical properties

9.1 Information on basic physical and chemical properties

Appearance:	Colourless to pale yellow liquid
Odour:	Coconut-like.
Odour threshold:	Data not available
pH:	Data not available
Melting point:	Data not available
Boiling point:	243°C @ 760 mm/Hg
Flash point:	>100°C
Evaporation rate:	Data not available
Flammability:	Data not available
Upper flammability limit:	Data not available
Lower flammability limit:	Data not available
Upper explosive limit:	Data not available
Lower explosive limit:	Data not available
Vapour pressure:	4 mm/Hg @ 25 °C
Vapour density:	4 mm/Hg @ 25 °C
Vapour density:	Data not available
Relative density:	0.964 @ 20 °C
Solubility:	Data not available
Partition coefficient n-o:	1.85
Auto ignition temperature:	Data not available
Decomposition temperature:	Data not available
Viscosity:	Data not available
Explosive properties:	Data not available
Oxidising properties:	Data not available

9.2 Other information

No relevant information available

Section 10 Stability and reactivity

10.1 Reactivity

This material is non-reactive under normal conditions of use and storage, see section 7

10.2 Chemical stability

This material is stable under normal conditions of use and storage, see section 7.

10.3 Possibility of hazardous reactions

When handled and stored under the conditions set out in section 7 it is not expected that there will be any hazardous reactions leading to excessive temperatures or pressures.

10.4 Conditions to avoid

Heat, flames and sparks. Extremes of temperature. Direct sunlight

10.5 Incompatible materials

Oxidising agents, reducing agents, acids, bases, Nitric acid

10.6 Hazardous decomposition products

No specific products known. In the event of fire refer to section 5 for products of combustion.

Section 11 Toxicological information**11.1 Information on toxicological effects**

Acute toxicity:	LD50 Oral Rat	6600 mg/kg
	LD50 Dermal Rabbit	>5000 mg/kg
Skin corrosion/irritation:	Data not available	
Serious eye damage/irritation:	Data not available	
Respiratory or skin sensitisation:	Data not available	
Germ cell mutagenicity:	Data not available	
Carcinogenicity:	Data not available	
Reproductive toxicity:	Data not available	
STOT - single exposure:	Data not available	
STOT - repeat exposure:	Data not available	
Aspiration hazard:	Data not available	

Section 12 Ecological information**12.1 Toxicity**

Data not available

12.2 Persistence and degradability

Data not available

12.3 Bioaccumulative potential:

Data not available

12.4 Mobility in soil

Data not available

12.5 Results of PTB and vPvB assessment:

Data not available

12.6 Other adverse effects:

Data not available

Section 13 Disposal conditions**13.1 Waste treatment methods**

Product - Treat any unused product as hazardous waste. Do not let product enter drains. Contact waste disposal services and dispose of material in accordance with local regulations.

Contaminated packaging - Treat packaging in the same manner as the product.

Section 14 Transport information

14.1 UN number: Not hazardous for transport

14.2 Proper shipping name: -

14.3 Transport hazard class(es): -

14.4 Packing group: -

14.5 Environmental hazards: No

14.6 Special precautions for user: Tunnel Code (ADR) : ---

14.7 Transport in bulk according to Annex II of Marpol and the IBC code: Not applicable

Section 15 Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

Statutory instrument SI 2009 No 716 The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009

Regulation 2037/2000 Substances that deplete the ozone layer : Not applicable

Regulation EC 689/2008 Concerning the import and export of dangerous chemicals : Not listed

Regulation EC 1907/2006 REACH : Not a candidate for authorisation

15.2 Chemical safety assessment

No data available

Section 16 Other information

Changes since the last update:

Section 2 - revised hazard information
Section 3 - revised composition information
Section 4 - revised first aid measures
Section 5 - revised firefighting measures
Section 6 - revised accidental release measures
Section 7 - revised handling and storage data
Section 8 - revised exposure controls/personal protection data
Section 9 - revised physical and chemical properties
Section 10 - revised stability and reactivity data
Section 11 - revised toxicological information
Section 12 - revised ecological information
Section 14 - revised transport information

List of abbreviations used in section 2 to 15:

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Issue: 6 Date of issue: 22.08.2018



SPECIFICATION

ALDEHYDE C18

Iss date: 21.06.2019

Issue : 6

Appearance	:	Colourless to pale yellow liquid
Odour	:	Coconut-like.
Refractive Index @ 20°C	:	1.4440 to 1.4500
Specific Gravity @ 20°C	:	0.9600 to 0.9800
Purity	:	>98%

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Product Statement

11th September 2019

Aldehyde C18

We hereby confirm that the above material is suitable for vegetarian and vegan use.

We hereby confirm that the above material's country of origin is China.

We hereby confirm that the above material does not have any specific restrictions according to the 48th amendment to the IFRA code of practice.

We hereby confirm that the Tariff code for the above material is 2932209090

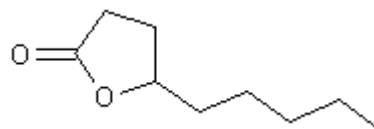
Technical Data Sheet

ALDEHYDE C18

Issue: 6

IUPAC name: 5-pentylloxolan-2-one

CAS number: 104-61-0
EU number: 203-219-1
FEMA number: 2781
Molecular formula: C₉ H₁₆ O₂
Molecular mass: 156.22
Annex VI ref:
Reach registration: 01-2119959335-30-xxxx
INCI name: Gamma-Nonalactone



Flash point: >100°C
Melting point: Data not available
Boiling point: 243°C @ 760 mm/Hg
Heavy metals: Material tested for heavy metals according to Quality Schedule. Not all batches tested. Quality schedule selects a representative number of batches for testing.
Pesticides: Not tested
Natural status: This material is not natural according to EU Directive 1334/2008
Kosher status: Kosher batches of this material are available.
Halal status: This material is suitable for Halal use but not certified as such.
Food grade status: This material is food grade according with Article 14 of EU Directive 178/2002
GMO status: Contains no modified material according to 1829/2003/EC and 1830/2003/EC
Storage: Store in full, dry, airtight containers below -20°C, away from sources of heat and light
Food allergens: This material is free from recognised food allergens as defined by EU regulation 1169/2011
TSE statement: This material is of entirely synthetic origin and therefore does not contain any animal derived material, neither has it been in contact with any animal derived material
Additives: This material contains no additives

Fragrance sensitisers (typical values):

None found:	X
Amyl cinnamal:	
Benzyl alcohol:	
Cinnamyl alcohol:	
Citral:	
Eugenol:	
Hydroxycitronellal:	
Isoeugenol:	
Amylcinnamyl alcohol:	
Benzyl salicylate:	
Cinnamal:	
Coumarin:	
Geraniol:	
Anise alcohol:	
Benzyl cinnamate:	
Lylal:	
Farnesol:	
Lilial:	
Linalool:	
Benzyl benzoate:	
Hexyl cinnamal:	
Citronellol:	
Limonene:	
Methyl 2-octynoate:	
Alpha-isomethyl ionone:	
Oakmoss extract:	
Treemoss extract:	

With reference to point 4 of Article 14 EU 178/2002, this material should not be consumed independently, only as part of a larger flavouring compound. It is for the user to decide the suitability and concentration of this material appropriate for its specific use.

With reference to point 5 of Article 14 EU 178/2002, this material has been sieved to < 2mm to eliminate extraneous matter, and will not putrefy, deteriorate or decay to an unsafe level during the entirety of its shelf life.

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