1. Identification

Product identifier

NATURAL OCTANAL 50% ENRICHED ORANGE OIL FRACTION

CAS No: 68606-94-0

Recommended use of the chemical and restrictions on use

Use of the substance/mixture

Manufacturing of: - Air care products - Perfumes, fragrances - Pharmaceuticals - Cosmetics, personal care products - Flavouring Substances - Other

Details of the supplier of the safety data sheet

Company name:	Axxence Aromatic GmbH		
Street:	Tackenweide 28		
Place:	D-46446 Emmerich am Rhein		
Telephone:	+ 49 2822 68561 0	Telefax:	+ 49 2822 68561 39
E-mail:	info@axxence.com		
Contact person:	Safety Team	Telephone:	+ 49 2822 68561 0
E-mail:	safety-documentation@axxence.com		
Internet:	www.axxence.de		
Responsible Department:	Safety Management		

Emergency phone number: +49 2822 68561 99

2. Hazard(s) identification

Classification of the chemical

29 CFR Part 1910.1200

Flammable liquids: Flam. Liq. 3
Skin corrosion/irritation: Skin Irrit. 2
Serious eye damage/eye irritation: Eye Irrit. 2A
Respiratory or skin sensitization: Skin Sens. 1

Label elements

29 CFR Part 1910.1200

Signal word: Warning

Pictograms:

Hazard statements

Flammable liquid and vapor
Causes skin irritation
May cause an allergic skin reaction
Causes serious eye irritation

Precautionary statements

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Keep container tightly closed.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Avoid breathing dust/fume/gas/mist/vapors/spray.
Wash hands thoroughly after handling.

Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves/protective clothing/eye protection/face protection.
If on skin: Wash with plenty of water.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
If skin irritation or rash occurs: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.
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.
In case of fire: Use Foam / Carbon dioxide (CO2) / Extinguishing powder to extinguish.
Store in a well-ventilated place. Keep cool.
Dispose of contents/container to Organic waste.

Hazards not otherwise classified

No information available.

3. Composition/information on ingredients

Mixtures

Relevant ingredients

CAS No	Components	Quantity
124-13-0	NATURAL ALDEHYDE C-8 (OCTANAL)	25 - 55 %
5989-27-5	(R)-p-mentha-1,8-diene, d-limonene	25 - 55 %
123-35-3	NATURAL MYRCENE	2,5 - 10 %
80-56-8	NATURAL ALPHA-PINENE	1,0 - 2,5 %
6728-26-3	NATURAL TRANS-2-HEXENAL	0,1 - 1,0 %
127-91-3	NATURAL BETA-PINENE	0,1 - 1,0 %
78-70-6	NATURAL LINALOOL	0,0 - 0,1 %

4. First-aid measures

Description of first aid measures

After inhalation

Provide fresh air. When in doubt or if symptoms are observed, get medical advice.

After contact with skin

After contact with skin, wash immediately with plenty of water and soap. Take off immediately all contaminated clothing and wash it before reuse. Medical treatment necessary.

After contact with eyes

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

After ingestion

Rinse mouth immediately and drink 1 glass of of water.

Most important symptoms and effects, both acute and delayed

No information available.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Carbon dioxide (CO2), Foam, Extinguishing powder.

Unsuitable extinguishing media

Water.

Specific hazards arising from the chemical

Flammable. Vapors may form explosive mixtures with air.

Special protective equipment and precautions for fire-fighters

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.

Additional information

Use water spray jet to protect personnel and to cool endangered containers. Supress gases/vapors/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

General advice

Remove all sources of ignition. Do not breathe gas/fume/vapor/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment.

Environmental precautions

Do not allow uncontrolled discharge of product into the environment. Explosion risk.

Methods and material for containment and cleaning up

For cleaning up

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

Other information

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

Reference to other sections

Safe handling: see section 7
Personal protection equipment (PPE): see section 8
Disposal: see section 13

7. Handling and storage

Precautions for safe handling

Advice on safe handling

No special measures are necessary.

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges. Vapors may form explosive mixtures with air.

Advice on general occupational hygiene

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat, drink, smoke, sniff. Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat, drink, smoke, sniff.

Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed. Keep in a cool, well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Hints on joint storage

Do not store together with: Oxidizing agent. Pyrophoric or self-heating substances.

8. Exposure controls/personal protection

Control parameters

Exposure limits

CAS No	Substance	ppm	mg/m³		Category	Origin
127-91-3	Selected monoterpenes: pin-2(10)-ene	20	112		TWA (8 h)	ACGIH-2024
80-56-8	Selected monoterpenes: pin-2(3)-ene	20	112		TWA (8 h)	ACGIH-2024

Exposure controls




Individual protection measures, such as personal protective equipment

Eye/face protection

Suitable eye protection: goggles.

Hand protection

Suitable gloves type: Disposable gloves + NBR (Nitrile rubber)
When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Skin protection

Use of protective clothing.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state:	Liquid
Color:	colorless
Melting point/freezing point:	not determined
Boiling point or initial boiling point and boiling range:	167 °C
Flammability:	not determined
Lower explosion limits:	0,7 vol. %
Upper explosion limits:	6,5 vol. %
Flash point:	39 °C
Auto-ignition temperature:	196 °C
Decomposition temperature:	not determined
pH-Value:	not determined
Water solubility:	No
Solubility in other solvents	
not determined	
Partition coefficient n-octanol/water:	not determined

Vapor pressure: (at 20 °C)	2,78 hPa
Vapor pressure: (at 50 °C)	12,4 hPa
Density:	0,83 g/cm³
Relative vapour density:	not determined

Other information

Information with regard to physical hazard classes

Explosive properties

The product is not: Explosive. not explosive according to EU A.14

Oxidizing properties

The product is not: oxidising.

Other safety characteristics

Evaporation rate:	not determined
Solvent content:	0%
Solid content:	0%

10. Stability and reactivity

Reactivity

Flammable.

Chemical stability

The product is stable under storage at normal ambient temperatures.

Possibility of hazardous reactions

No known hazardous reactions.

Conditions to avoid

Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. Vapors may form explosive mixtures with air.

Incompatible materials

No information available.

Hazardous decomposition products

No known hazardous decomposition products.

11. Toxicological information

Information on toxicological effects

Acute toxicity

Based on available data, the classification criteria are not met.

ATEmix calculated

ATE (oral) > 5000 mg/kg; ATE (dermal) > 5000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

CAS No	Components				
	Exposure route	Dose	Species	Source	Method
124-13-0	NATURAL ALDEHYDE C-8 (OCTANAL)				
	oral	LD50 4617 mg/kg	Rat	REACH Dossier	
	dermal	LD50 5207 mg/kg	Rabbit	REACH Dossier	
5989-27-5	(R)-p-mentha-1,8-diene, d-limonene				
	oral	LD50 5300 mg/kg	Rat	IFA GESTIS	
	dermal	LD50 >5000 mg/kg	Rabbit	REACH registration	OECD 402
123-35-3	NATURAL MYRCENE				
	oral	LD50 >11390 mg/kg	Rat	REACH registration	
	dermal	LD50 >5000 mg/kg	Rabbit	REACH registration	OECD 402
80-56-8	NATURAL ALPHA-PINENE				
	oral	LD50 3700 mg/kg	Rat	GESTIS	
	dermal	LD50 >2000 mg/kg	Rat	REACH registration	OECD 402
6728-26-3	NATURAL TRANS-2-HEXENAL				
	oral	LD50 780 mg/kg	Rat	REACH Dossier	
	dermal	LD50 600 mg/kg	Rabbit		
127-91-3	NATURAL BETA-PINENE				
	oral	LD50 >5000 mg/kg	Rat	REACH Dossier	
	dermal	LD50 >5000 mg/kg	Rabbit	REACH Dossier	
78-70-6	NATURAL LINALOOL				
	oral	LD50 2790 mg/kg	Rat	REACH registration	OECD 401
	dermal	LD50 5610 mg/kg	Rabbit	REACH registration	OECD 402

Irritation and corrosivity

Skin corrosion/irritation: Causes skin irritation

Serious eye damage/eye irritation: Causes serious eye irritation

Sensitizing effects

May cause an allergic skin reaction ((R)-p-mentha-1,8-diene, d-limonene; NATURAL ALPHA-PINENE; NATURAL TRANS-2-HEXENAL; NATURAL BETA-PINENE; NATURAL LINALOOL)

Carcinogenic/mutagenic/toxic effects for reproduction

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Carcinogenicity: Based on available data, the classification criteria are not met.

Reproductive toxicity: Based on available data, the classification criteria are not met.

Specific target organ toxicity (STOT) - single exposure

Based on available data, the classification criteria are not met.

Specific target organ toxicity (STOT) - repeated exposure

Based on available data, the classification criteria are not met.

Carcinogenicity (OSHA):	No ingredient of this mixture is listed.
Carcinogenicity (IARC):	d-Limonene (CAS 5989-27-5) is listed in group 3. beta-Myrcene (CAS 123-35-3) is listed in group 2B.
Carcinogenicity (NTP):	No ingredient of this mixture is listed.

Aspiration hazard

Based on available data, the classification criteria are not met.

Information on other hazards

Endocrine disrupting properties

No information available.

Further information

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

12. Ecological information

Ecotoxicity

Very toxic to aquatic life with long lasting effects.

CAS No	Components						
	Aquatic toxicity	Dose		[h] | [d]	Species	Source	Method
124-13-0	NATURAL ALDEHYDE C-8 (OCTANAL)						
	Acute algae toxicity	ErC50	1,79 mg/l	72 h	Pseudokirchneriella subcapitata	REACH Dossier	OECD 201
	Acute crustacea toxicity	EC50	1,54 mg/l	48 h	Daphnia magna (Big water flea)	REACH Dossier	OECD 202
5989-27-5	(R)-p-mentha-1,8-diene, d-limonene						
	Acute fish toxicity	LC50	0,72 mg/l	96 h	Pimephales promelas (fathead minnow)	REACH registration	OECD 203
	Acute algae toxicity	ErC50	0,32 mg/l	72 h	Pseudokirchneriella subcapitata	REACH registration	OECD 201
	Acute crustacea toxicity	EC50	0,307 mg/l	48 h	Daphnia magna (Big water flea)	REACH registration	OECD 202
	Fish toxicity	NOEC	0,37 mg/l	8 d	Pimephales promelas (fathead minnow)	REACH Registration	OECD 212
	Acute bacteria toxicity	EC50	209 mg/l ( )	3 h	Activated sludge	REACH registration	OECD 209
123-35-3	NATURAL MYRCENE						
	Acute fish toxicity	LC50	1,3 mg/l	96 h	Danio rerio (zebrafish)	REACH registration	OECD 203
	Acute algae toxicity	ErC50	0,34 mg/l	72 h	Pseudokirchneriella subcapitata	REACH Registration	OECD 201
	Acute crustacea toxicity	EC50	1,47 mg/l	48 h	Daphnia magna (Big water flea)	REACH registration	OECD 202
80-56-8	NATURAL ALPHA-PINENE						
	Acute fish toxicity	LC50	0,27 mg/l	96 h	Cyprinus carpio (Common Carp)	REACH registration	OECD 203
	Acute crustacea toxicity	EC50	0,475 mg/l	48 h	Daphnia magna (Big water flea)	REACH registration	OECD 202
6728-26-3	NATURAL TRANS-2-HEXENAL						
	Acute algae toxicity	ErC50	8,16 mg/l	72 h	Pseudokirchneriella subcapitata	REACH registration	QSAR Predictions
	Acute crustacea toxicity	EC50	22,8 mg/l	48 h	Daphnia magna (Big water flea)	REACH registration	OECD Toolbox software
127-91-3	NATURAL BETA-PINENE						
	Acute fish toxicity	LC50	0,502 mg/l	96 h	Pimephales promelas (fathead minnow)	REACH Dossier	OECD 203
	Acute algae toxicity	ErC50	0,826 mg/l	72 h	Pseudokirchneriella subcapitata	REACH Dossier	OECD 201
	Acute crustacea toxicity	EC50	1,2 mg/l	48 h	Daphnia magna (Big water flea)	REACH Dossier	OECD 202
	Acute bacteria toxicity	EC50	326 mg/l ( )		Activated sludge	REACH Dossier	OECD 209
78-70-6	NATURAL LINALOOL						
	Acute fish toxicity	LC50	27,8 mg/l	96 h	Oncorhynchus mykiss (Rainbow trout)	REACH registration	OECD 203
	Acute algae toxicity	ErC50	88,3 mg/l	96 h	Desmodesmus subspicatus	REACH registration	DIN 38412 L9
	Acute crustacea toxicity	EC50	59 mg/l	48 h	Daphnia magna (Big water flea)	REACH registration	OECD 202

	Acute bacteria toxicity	EC50 mg/l ( )	>100	0,5 h	Activated sludge	REACH registration	OECD 209

Persistence and degradability

The product has not been tested.

Bioaccumulative potential

The product has not been tested.

Partition coefficient n-octanol/water

CAS No	Components	Log Pow
124-13-0	NATURAL ALDEHYDE C-8 (OCTANAL)	3,5
5989-27-5	(R)-p-mentha-1,8-diene, d-limonene	4,5
123-35-3	NATURAL MYRCENE	4,82
80-56-8	NATURAL ALPHA-PINENE	4,83
6728-26-3	NATURAL TRANS-2-HEXENAL	1,58
127-91-3	NATURAL BETA-PINENE	4,4
78-70-6	NATURAL LINALOOL	2,97

BCF

CAS No	Components	BCF	Species	Source
124-13-0	NATURAL ALDEHYDE C-8 (OCTANAL)	94,69		REACH Registration
5989-27-5	(R)-p-mentha-1,8-diene, d-limonene	690,1	aquatic species	REACH registration
80-56-8	NATURAL ALPHA-PINENE	1248		REACH registration
127-91-3	NATURAL BETA-PINENE	838		REACH Dossier

Mobility in soil

The product has not been tested.

Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

Other adverse effects

No information available.

Further information

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

13. Disposal considerations

Waste treatment methods

Disposal recommendations

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Dispose of waste according to applicable legislation.

Contaminated packaging

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

14. Transport information

U.S. DOT 49 CFR 172.101

UN number or ID number: UN 1989
Proper shipping name: ALDEHYDES, N.O.S.
Transport hazard class(es): 3
Packing group: III

Hazard label: 3

Marine transport (IMDG)

UN number or ID number:	UN 1989
UN proper shipping name:	ALDEHYDES, N.O.S.
Transport hazard class(es):	3
Packing group:	III
Hazard label:	3

Special Provisions:	223 274
Limited quantity:	5 L
Excepted quantity:	E1
EmS:	F-E, S-D

Air transport (ICAO-TI/IATA-DGR)

UN number or ID number:	UN 1989
UN proper shipping name:	ALDEHYDES, N.O.S.
Transport hazard class(es):	3
Packing group:	III
Hazard label:	3

Special Provisions:	A3
Limited quantity Passenger:	10 L
Passenger LQ:	Y344
Excepted quantity:	E1
IATA-packing instructions - Passenger:	355
IATA-max. quantity - Passenger:	60 L
IATA-packing instructions - Cargo:	366
IATA-max. quantity - Cargo:	220 L

Environmental hazards

ENVIRONMENTALLY HAZARDOUS: Yes

Danger releasing substance: NATURAL OCTANAL
NATURAL D-LIMONENE

Special precautions for user

Warning: Combustible liquid.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

not applicable

15. Regulatory information

U.S. Regulations

National regulatory information

SARA Section 311/312 Hazards:

NATURAL ALDEHYDE C-8 (OCTANAL) (124-13-0): Fire hazard, Immediate (acute) health hazard
(R)-p-mentha-1,8-diene, d-limonene (5989-27-5): Fire hazard, Immediate (acute) health hazard
NATURAL MYRCENE (123-35-3): Fire hazard, Immediate (acute) health hazard
NATURAL ALPHA-PINENE (80-56-8): Fire hazard, Immediate (acute) health hazard
NATURAL TRANS-2-HEXENAL (6728-26-3): Fire hazard, Immediate (acute) health hazard
NATURAL BETA-PINENE (127-91-3): Fire hazard, Immediate (acute) health hazard
NATURAL LINALOOL (78-70-6): Immediate (acute) health hazard

State Regulations

Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65, State of California)

WARNING: This product can expose you to chemicals including beta-Myrcene (cancer), which are known to the State of California to cause cancer, birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

16. Other information

Revision date:	07/21/2023
Revision No:	103

Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route
(European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service
LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%
CLP: Classification, labelling and Packaging
REACH: Registration, Evaluation and Authorization of Chemicals
GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals
UN: United Nations
DNEL: Derived No Effect Level
DMEL: Derived Minimal Effect Level
PNEC: Predicted No Effect Concentration
ATE: Acute toxicity estimate
LL50: Lethal loading, 50%
EL50: Effect loading, 50%
EC50: Effective Concentration 50%
ErC50: Effective Concentration 50%, growth rate
NOEC: No Observed Effect Concentration
BCF: Bio-concentration factor
PBT: persistent, bioaccumulative, toxic
vPvB: very persistent, very bioaccumulative
RID: Regulations concerning the international carriage of dangerous goods by rail
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
(Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures)
EmS: Emergency Schedules
MFAG: Medical First Aid Guide
ICAO: International Civil Aviation Organization
MARPOL: International Convention for the Prevention of Marine Pollution from Ships
IBC: Intermediate Bulk Container
VOC: Volatile Organic Compounds
SVHC: Substance of Very High Concern
For abbreviations and acronyms, see table at http://abbrev.esdscom.eu
For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).

Other data

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations.

(The data for the relevant ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)