

Safety Data Sheet

according to UN GHS (ST/SG/AC.10/11/Rev.10)

NATURAL OCTANAL 50% ENRICHED ORANGE OIL FRACTION

Revision date: 21.07.2023

Product code: 279700WW

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

1.1. Product identifier

NATURAL OCTANAL 50% ENRICHED ORANGE OIL FRACTION

CAS No: 68606-94-0

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

Use of the substance/mixture

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

1.3. 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	

1.4. Emergency telephone number:

+49 2822 68561 99

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

UN GHS (ST/SG/AC.10/11/Rev.10)

Flammable liquid: Flam. Liq. 3
 Skin corrosion/irritation: Skin Irrit. 2
 Serious eye damage/eye irritation: Eye Irrit. 2
 Respiratory or skin sensitisation: Skin Sens. 1
 Hazardous to the aquatic environment: Aquatic Acute 1
 Hazardous to the aquatic environment: Aquatic Chronic 1

2.2. Label elements

UN GHS (ST/SG/AC.10/11/Rev.10)

Hazard components for labelling

(R)-p-mentha-1,8-diene, d-limonene
 NATURAL ALPHA-PINENE

Signal word: Warning

Pictograms:



Hazard statements

H226	Flammable liquid and vapour.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary statements

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No
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	smoking.
P233	Keep container tightly closed.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting equipment.
P242	Use non-sparking tools.
P243	Take action to prevent static discharges.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P302+P352	IF ON SKIN: Wash with plenty of water.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P333+P317	If skin irritation or rash occurs: Get medical help.
P362+P364	Take off contaminated clothing and wash it before reuse.
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+P317	If eye irritation persists: Get medical help.
P370+P378	In case of fire: Use Foam / Carbon dioxide (CO ₂) / Extinguishing powder to extinguish.
P391	Collect spillage.
P403+P235	Store in a well-ventilated place. Keep cool.
P501	Dispose of contents/container to organic waste.

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Relevant ingredients

CAS No	Chemical name	Quantity
	Classification (UN GHS (ST/SG/AC.10/11/Rev.10))	
124-13-0	NATURAL ALDEHYDE C-8 (OCTANAL)	50 - < 55 %
	Flam. Liq. 3, Skin Irrit. 2, Eye Irrit. 2, Aquatic Acute 2; H226 H315 H319 H401	
5989-27-5	(R)-p-mentha-1,8-diene, d-limonene	40 - < 45 %
	Flam. Liq. 3, Skin Irrit. 2, Skin Sens. 1, Asp. Tox. 1, Aquatic Acute 1, Aquatic Chronic 1; H226 H315 H317 H304 H400 H410	
123-35-3	NATURAL MYRCENE	5 - < 10 %
	Flam. Liq. 3, Skin Irrit. 2, Eye Irrit. 2A, Asp. Tox. 1, Aquatic Acute 1, Aquatic Chronic 1; H226 H315 H319 H304 H400 H410	
80-56-8	NATURAL ALPHA-PINENE	1 - < 5 %
	Flam. Liq. 3, Acute Tox. 5, Skin Irrit. 2, Skin Sens. 1, Asp. Tox. 1, Aquatic Acute 1, Aquatic Chronic 1; H226 H303 H315 H317 H304 H400 H410	
6728-26-3	NATURAL TRANS-2-HEXENAL	< 1 %
	Flam. Liq. 3, Acute Tox. 3, Acute Tox. 4, Skin Irrit. 3, Eye Irrit. 2A, Skin Sens. 1B, Aquatic Acute 2; H226 H311 H302 H316 H319 H317 H401	
127-91-3	NATURAL BETA-PINENE	< 1 %
	Flam. Liq. 3, Skin Irrit. 2, Skin Sens. 1, Asp. Tox. 1, Aquatic Acute 1, Aquatic Chronic 1; H226 H315 H317 H304 H400 H410	

SECTION 4: First aid measures

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4.1. 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 water.

4.2. Most important symptoms and effects, both acute and delayed

No information available.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Carbon dioxide (CO₂), Foam, Extinguishing powder.

Unsuitable extinguishing media

Water.

5.2. Special hazards arising from the substance or mixture

Flammable. Vapours can form explosive mixtures with air.

5.3. Advice for firefighters

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. Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General advice

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

6.2. Environmental precautions

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

6.3. 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.

6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

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Disposal: see section 13

SECTION 7: Handling and storage

7.1. 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.

Vapours can 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.

7.2. 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.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.2. 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.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:

Liquid

Colour:

colourless

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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
Vapour pressure: (at 20 °C)	2,78 hPa
Vapour pressure: (at 50 °C)	12,4 hPa
Density:	0,83 g/cm ³
Relative vapour density:	not determined

9.2. 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%

SECTION 10: Stability and reactivity

10.1. Reactivity

Flammable.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

No known hazardous reactions.

10.4. Conditions to avoid

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

10.5. Incompatible materials

No information available.

10.6. Hazardous decomposition products

No known hazardous decomposition products.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

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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) > 50 mg/l; ATE (inhalation dust/mist) > 12,5 mg/l

CAS No	Chemical name				
	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	

Irritation and corrosivity

Skin corrosion/irritation: Causes skin irritation.

Serious eye damage/eye irritation: Causes serious eye irritation.

Sensitising 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)

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.

STOT-single exposure

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

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STOT-repeated exposure

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

Aspiration hazard

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

11.2. 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].

SECTION 12: Ecological information**12.1. Toxicity**

Very toxic to aquatic life with long lasting effects.

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CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
124-13-0	NATURAL ALDEHYDE C-8 (OCTANAL)					
	Acute algae toxicity	ErC50 mg/l	1,79	72 h	Pseudokirchneriella subcapitata	REACH Dossier OECD 201
	Acute crustacea toxicity	EC50 mg/l	1,54	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 mg/l	0,72	96 h	Pimephales promelas (fathead minnow)	REACH registration OECD 203
	Acute algae toxicity	ErC50 mg/l	0,32	72 h	Pseudokirchneriella subcapitata	REACH registration OECD 201
	Acute crustacea toxicity	EC50 mg/l	0,307	48 h	Daphnia magna (Big water flea)	REACH registration OECD 202
	Fish toxicity	NOEC mg/l	0,37	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 mg/l	0,34	72 h	Pseudokirchneriella subcapitata	REACH Registration OECD 201
	Acute crustacea toxicity	EC50 mg/l	1,47	48 h	Daphnia magna (Big water flea)	REACH registration OECD 202
80-56-8	NATURAL ALPHA-PINENE					
	Acute fish toxicity	LC50 mg/l	0,27	96 h	Cyprinus carpio (Common Carp)	REACH registration OECD 203
	Acute crustacea toxicity	EC50 mg/l	0,475	48 h	Daphnia magna (Big water flea)	REACH registration OECD 202
6728-26-3	NATURAL TRANS-2-HEXENAL					
	Acute algae toxicity	ErC50 mg/l	8,16	72 h	Pseudokirchneriella subcapitata	REACH registration QSAR Predictions
	Acute crustacea toxicity	EC50 mg/l	22,8	48 h	Daphnia magna (Big water flea)	REACH registration OECD Toolbox software
127-91-3	NATURAL BETA-PINENE					
	Acute fish toxicity	LC50 mg/l	0,502	96 h	Pimephales promelas (fathead minnow)	REACH Dossier OECD 203
	Acute algae toxicity	ErC50 mg/l	0,826	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

12.2. Persistence and degradability

The product has not been tested.

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CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
124-13-0	NATURAL ALDEHYDE C-8 (OCTANAL)			
	OECD 301F	57%	7	REACH Registration
	Readily biodegradable (according to OECD criteria).			
	OECD 301F	70%	14	REACH Registration
	Readily biodegradable (according to OECD criteria).			
	OECD 301F	75%	28	REACH Registration
	Readily biodegradable (according to OECD criteria).			
5989-27-5	(R)-p-mentha-1,8-diene, d-limonene			
	OECD 301D	80%	28	REACH Registration
	Readily biodegradable (according to OECD criteria).			
	OECD 301D	71%	14	REACH Registration
	Readily biodegradable (according to OECD criteria).			
	OECD 301D	41%	7	REACH Registration
	Readily biodegradable (according to OECD criteria).			
123-35-3	NATURAL MYRCENE			
	OECD 301D	76%	28	REACH registration
	Readily biodegradable (according to OECD criteria).			
	OECD 301D	65%	14	REACH registration
	Readily biodegradable (according to OECD criteria).			
	OECD 301D	42%	7	REACH registration
	Readily biodegradable (according to OECD criteria).			
80-56-8	NATURAL ALPHA-PINENE			
	OECD 301D	68%	28	REACH registration
	Readily biodegradable (according to OECD criteria).			
	OECD 301D	66%	7	REACH registration
	Readily biodegradable (according to OECD criteria).			
127-91-3	NATURAL BETA-PINENE			
	OECD 301D	76%	28	REACH Dossier
	Readily biodegradable (according to OECD criteria).			
	OECD 301D	65%	14	REACH Dossier
	Readily biodegradable (according to OECD criteria).			
	OECD 301D	33%	7	REACH Dossier
	Readily biodegradable (according to OECD criteria).			

12.3. Bioaccumulative potential

The product has not been tested.

Partition coefficient n-octanol/water

CAS No	Chemical name	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

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BCF

CAS No	Chemical name	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

12.4. Mobility in soil

The product has not been tested.

12.6. 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.

12.7. 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.

SECTION 13: Disposal considerations

13.1. 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.

SECTION 14: Transport information

Marine transport (IMDG)

14.1. UN number or ID number:	UN 1989
14.2. UN proper shipping name:	ALDEHYDES, N.O.S.
14.3. Transport hazard class(es):	3
14.4. 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)

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



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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

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: Yes



Danger releasing substance: NATURAL OCTANAL
NATURAL D-LIMONENE

14.6. Special precautions for user

Warning: Combustible liquid.

14.7. Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information

National regulatory information

Employment restrictions:	Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).
Skin resorption/Sensitization:	Causes allergic hypersensitivity reactions.

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 2,11.

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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).

Further Information

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.)