

## Safety Data Sheet

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

### NATURAL ACETAL

Revision date: 04.02.2025

Product code: 200200WW

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

##### 1.1. Product identifier

NATURAL ACETAL

Substance name: 1,1-diethoxyethane, acetal  
 CAS No: 105-57-7

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

###### Use of the substance/mixture

For Flavour use for food and feed only

##### 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. 2  
 Acute toxicity: Acute Tox. 5 (oral)  
 Skin corrosion/irritation: Skin Irrit. 2  
 Serious eye damage/eye irritation: Eye Irrit. 2  
 Carcinogenicity: Carc. 1B  
 Hazardous to the aquatic environment: Aquatic Acute 3

##### 2.2. Label elements

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

###### Hazard components for labelling

1,1-diethoxyethane, acetal  
 NATURAL ACETALDEHYDE

Signal word: Danger

###### Pictograms:



###### Hazard statements

H225	Highly flammable liquid and vapour.
H303	May be harmful if swallowed.
H315+H319	Causes skin irritation and serious eye irritation.
H350	May cause cancer.
H402	Harmful to aquatic life.

###### Precautionary statements

P203 Obtain, read and follow all safety instructions before use.

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P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No 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.
P264+P265	Wash hands [and ...] thoroughly after handling. Do not touch eyes.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P301+P317	IF SWALLOWED: Get medical help.
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.
P332+P317	If skin irritation 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.
P318	IF exposed or concerned, get medical advice.
P370+P378	In case of fire: Use Extinguishing powder, Carbon dioxide (CO2) to extinguish.
P403+P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/container to organic waste.

#### 2.3. Other hazards

Contains no substances of very high concern (SVHC) which are included in the Candidate List according to Article 59 of REACH. Contains no substances of very high concern (SVHC) which are subject to authorisation according to Annex XIV of REACH.

### SECTION 3: Composition/information on ingredients

#### 3.2. Mixtures

Sum formula: C6 H14 O2

#### Relevant ingredients

CAS No	Chemical name	Quantity
	Classification (UN GHS (ST/SG/AC.10/11/Rev.10))	
105-57-7	1,1-diethoxyethane, acetal	99,2-99,9%
	Flam. Liq. 2, Acute Tox. 5, Skin Irrit. 2, Eye Irrit. 2, Aquatic Acute 3; H225 H303 H315 H319 H402	
75-07-0	NATURAL ACETALDEHYDE	0,1-0,8%
	Flam. Liq. 1, Carc. 1B, Muta. 2, Acute Tox. 4, Acute Tox. 5, Acute Tox. 5, Eye Irrit. 2, STOT SE 3, Aquatic Acute 3; H224 H350 H341 H302 H333 H313 H319 H335 H402	

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

##### After inhalation

Provide fresh air.

##### 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. If skin irritation occurs: Get medical advice/attention.

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#### **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**

Observe risk of aspiration if vomiting occurs. Rinse mouth immediately and drink 1 glass of water. Rinse mouth immediately and drink plenty 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**

Water spray jet, Carbon dioxide (CO<sub>2</sub>), Foam, Extinguishing powder.

##### **Unsuitable extinguishing media**

Water

#### **5.2. Special hazards arising from the substance or mixture**

Highly 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

Disposal: see section 13

### SECTION 7: Handling and storage

#### **7.1. Precautions for safe handling**

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**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 locked up. Store in a place accessible by authorized persons only. Provide adequate ventilation as well as local exhaust at critical locations. 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: NBR (Nitrile rubber) + Natural fibres (e.g. cotton)

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**

Flame-retardant protective clothing. Wear anti-static footwear and clothing .

**Respiratory protection**

In case of inadequate ventilation wear respiratory protection.

**Thermal hazards**

Flame-retardant protective clothing. Wear anti-static footwear and clothing . .

**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties**

Physical state:

Liquid

Colour:

**Test method**

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Melting point/freezing point:	<-22 °C
Boiling point or initial boiling point and boiling range:	102 °C
Flammability:	not determined
Lower explosion limits:	1,6 vol. %
Upper explosion limits:	10,4 vol. %
Flash point:	13 °C
Auto-ignition temperature:	230 °C
Decomposition temperature:	not determined
pH-Value:	not determined
Viscosity / kinematic:	not determined
Water solubility: (at 25 °C)	46 g/l OECD 105
Solubility in other solvents not determined	
Partition coefficient n-octanol/water:	0,84
Vapour pressure: (at 20 °C)	34,8 hPa
Vapour pressure: (at 50 °C)	150 hPa
Density (at 20 °C):	0,83 g/cm <sup>3</sup>
Relative vapour density: (at 20 °C)	4,08
Particle characteristics:	not applicable

#### **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%

Viscosity / dynamic:  
(at 20 °C) 0,46 mPa·s

### **SECTION 10: Stability and reactivity**

#### **10.1. Reactivity**

Highly 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.

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#### 10.6. Hazardous decomposition products

No known hazardous decomposition products.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

##### Acute toxicity

May be harmful if swallowed.

##### ATEmix calculated

ATE (oral) 4593 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
105-57-7	1,1-diethoxyethane, acetal				
	oral	LD50 4570 mg/kg	Rat	REACH registration Dossier	
	dermal	LD50 8276 mg/kg	Rabbit	REACH registration Dossier	
75-07-0	NATURAL ACETALDEHYDE				
	oral	LD50 661 mg/kg	Rat	REACH Dossier	
	dermal	LD50 3540 mg/kg	Rabbit	GESTIS	
	inhalation (4 h) vapour	LC50 24 mg/l	Rat	REACH Dossier	OECD 403
	inhalation dust/mist	ATE 6,25 mg/l			

##### Irritation and corrosivity

Skin corrosion/irritation: Causes skin irritation.

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

##### Sensitising effects

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

##### Carcinogenic/mutagenic/toxic effects for reproduction

May cause cancer. (NATURAL ACETALDEHYDE)

Germ cell mutagenicity: 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.

##### 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.

##### Other information

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP]. Special hazards arising from the substance or mixture!

### SECTION 12: Ecological information

#### 12.1. Toxicity

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Harmful to aquatic life.

The product is not: Ecotoxic.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
105-57-7	1,1-diethoxyethane, acetal					
	Acute algae toxicity	ErC50 mg/l	>94,4	72 h	Pseudokirchneriella subcapitata	REACH Registration OECD 201
	Acute crustacea toxicity	EC50 mg/l	>120	48 h	Daphnia magna (Big water flea)	REACH Registration OECD 202
75-07-0	NATURAL ACETALDEHYDE					
	Acute fish toxicity	LC50 mg/l	30,8	96 h	Pimephales promelas (fathead minnow)	REACH Dossier
	Acute algae toxicity	ErC50 mg/l	>100	72 h	Pseudokirchneriella subcapitata	REACH Dossier OECD 201
	Acute crustacea toxicity	EC50 mg/l	48,3	48 h	Daphnia magna (Big water flea)	REACH Dossier
	Acute bacteria toxicity	EC50 ( )	625 mg/l	3 h		REACH Dossier

#### 12.2. Persistence and degradability

The product has not been tested.

CAS No	Chemical name				
	Method	Value	d	Source	
	Evaluation				
105-57-7	1,1-diethoxyethane, acetal				
	OECD 310	47%	28	REACH Registration	
	Biodegradable.				
75-07-0	NATURAL ACETALDEHYDE				
	OECD 301C	80%	14	RACH Dossier	
	Readily biodegradable				

#### 12.3. Bioaccumulative potential

The product has not been tested.

#### Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
105-57-7	1,1-diethoxyethane, acetal	0,84
75-07-0	NATURAL ACETALDEHYDE	0,54

#### 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.

No information available.

#### 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

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#### 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 1088  
**14.2. UN proper shipping name:** ACETAL  
**14.3. Transport hazard class(es):** 3  
**14.4. Packing group:** II  
 Hazard label: 3



Special Provisions: -  
 Limited quantity: 1 L  
 Excepted quantity: E2  
 EmS: F-E, S-D

#### Air transport (ICAO-TI/IATA-DGR)

**14.1. UN number or ID number:** UN 1088  
**14.2. UN proper shipping name:** ACETAL  
**14.3. Transport hazard class(es):** 3  
**14.4. Packing group:** II  
 Hazard label: 3



Limited quantity Passenger: 1 L  
 Passenger LQ: Y341  
 Excepted quantity: E2  
 IATA-packing instructions - Passenger: 353  
 IATA-max. quantity - Passenger: 5 L  
 IATA-packing instructions - Cargo: 364  
 IATA-max. quantity - Cargo: 60 L

#### 14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

#### 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). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.



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**SECTION 16: Other information****Changes**

This data sheet contains changes from the previous version in section(s): 2,11,15.

**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).  
EC/EEC: European Community/European Economic Community  
EU: European Union  
M-factor: Multiplying factor  
IATA: International Air Transport Association  
DGR: Dangerous Goods Regulations  
ICAO: International Civil Aviation Organization  
TI: Technical Instructions  
VOC: volatile organic compound

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**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.

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