

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Deoxynivalenol

Revision date: 14.08.2020

Product code: LS-1201

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SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Deoxynivalenol

Further trade names

(3a,7a)-3,7,15-trihydroxy-12,13-epoxytrichothec-9-en-8-one

12,13-Epoxy-3,4,15-trihydroxy- trichothec-9-en-8-on

Deoxynivalenol

Vomitoxin

(1'R,2S,2'R,3'S,7'R,9'R,10'R)-3',10'-dihydroxy-2'-(hydroxymethyl)

-1',5'-dimethyl-8'-oxaspiro[oxirane-2,12'-tricyclo[7.2.1.0^{2,7}]]dodecan]-5'-en-4'-one

3',6'-dihydroxy-5a'-(hydroxymethyl)-5',8'-dimethyl-2',3',4',5',5a',9a'-hexahydrospiro[oxirane-2,10'-[2,5]methanobenzo[b]oxepin]-7'(6'H)-one

Substance name: Deoxynivalenol

Abbreviation: DON

CAS No: 51481-10-8

EC No: 610-668-0

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

for professional use only

Uses advised against

Do not use for private purposes (household).

1.3. Details of the supplier of the safety data sheet

Company name: Iris Biotech GmbH
Street: Adalbert-Zoellner-Straße 1
Place: D-95615 Marktredwitz, Germany
Post-office box: 568
D-95605 Marktredwitz, Germany

Telephone: +49 9231 97121 0

Telefax: +49 9231 97121 99

e-mail: info@iris-biotech.de

Contact person: Compliance Department

Telephone: +49 9231 97121 0

e-mail: sds@iris-biotech.de

Internet: www.iris-biotech.de

Responsible Department: Only available during office hours.

1.4. Emergency telephone number: +49 (0)89 19240 (POISON CENTER Munich: 24 h)**Further Information**

Emergency telephone: 24h (POISON CENTER Munich)

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Regulation (EC) No. 1272/2008**

Hazard categories:

Acute toxicity: Acute Tox. 2

Hazard Statements:

Fatal if swallowed.

2.2. Label elements**Regulation (EC) No. 1272/2008****Signal word:** Danger

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Pictograms:

Hazard statements

H300 Fatal if swallowed.

Precautionary statements

P264 Wash hands thoroughly after handling.
 P270 Do not eat, drink or smoke when using this product.
 P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
 P330 Rinse mouth.
 P405 Store locked up.
 P501 Dispose of contents/container to an approved disposal site.

Additional advice on labelling

Warning - substance not yet tested completely.

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients
3.1. Substances
Chemical characterization

3',6'-dihydroxy-5a'-(hydroxymethyl)-5',8'-dimethyl-2',3',4',5',5a',9a'-hexahydrospiro[oxirane-2,10'-[2,5]methanobenzo[b]oxepin]-7'(6'H)-one

 Sum formula: C₁₅H₂₀O₆

Molecular weight: 296,32 g/mol

Hazardous components

CAS No	Chemical name	Quantity
	EC No	Index No
	REACH No	
	GHS Classification	
51481-10-8	Deoxynivalenol	<= 100 %
	610-668-0	
	Acute Tox. 2; H300	

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
51481-10-8	610-668-0	Deoxynivalenol	<= 100 %
		oral: LD50 = 46 mg/kg	

Further Information

Warning - substance not yet tested completely.

SECTION 4: First aid measures
4.1. Description of first aid measures
General information

In all cases of doubt, or when symptoms persist, seek medical advice.

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After inhalation

Provide fresh air. Medical treatment necessary. Remove casualty to fresh air and keep warm and at rest. In case of irregular breathing or respiratory arrest provide artificial respiration. In all cases of doubt, or when symptoms persist, seek medical advice.

After contact with skin

Wash with plenty of water. Immediately remove any contaminated clothing, shoes or stockings. Medical treatment necessary. After contact with skin, wash immediately with plenty of water and soap. In all cases of doubt, or when symptoms persist, seek medical advice.

After contact with eyes

After eye contact: Rinse immediately carefully and thoroughly with eye-bath or water. Consult an ophthalmologist. If product gets into the eye, keep eyelid open and rinse immediately with large quantities of water, for at least 5 minutes. Subsequently consult an ophthalmologist.

After ingestion

Rinse mouth immediately and drink 1 glass of water. Induce vomiting when the affected person is not unconscious. Call a physician immediately. Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person or a person with cramps. In all cases of doubt, or when symptoms persist, seek medical advice.

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. Treat symptomatically.

SECTION 5: Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media**

Co-ordinate fire-fighting measures to the fire surroundings. Water spray. alcohol resistant foam. Dry extinguishing powder. Carbon dioxide (CO₂). Sand.

Unsuitable extinguishing media

High power water jet.

5.2. Special hazards arising from the substance or mixture

Non-flammable. Thermal decomposition can lead to the escape of irritating gases and vapours. In case of fire may be liberated: Carbon dioxide (CO₂). Carbon monoxide (CO).

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus. Wear a self-contained breathing apparatus and chemical protective clothing.

Additional information

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

Provide adequate ventilation. Avoid dust formation. Do not breathe dust. Avoid contact with skin, eyes and clothes. Use personal protection equipment. Provide adequate ventilation. Avoid dust formation. Avoid contact with skin, eyes and clothes. Wear personal protection equipment. In case of fire: Evacuate area.

6.2. Environmental precautions

Do not allow to enter into soil/subsoil.

Do not allow to enter into surface water or drains.

Do not empty into drains; dispose of this material and its container in a safe way.

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6.3. Methods and material for containment and cleaning up**Other information**

Take up mechanically. Treat the recovered material as prescribed in the section on waste disposal. Clear contaminated areas thoroughly.

6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

Treat the recovered material as prescribed in the section on waste disposal.

SECTION 7: Handling and storage**7.1. Precautions for safe handling****Advice on safe handling**

If handled uncovered, arrangements with local exhaust ventilation have to be used. Avoid dust formation. Do not breathe dust. Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid contact with skin, eyes and clothes. Provide adequate ventilation. Avoid generation of dust. Conditions to avoid: generation/formation of aerosols

Advice on protection against fire and explosion

Fight fire with normal precautions from a reasonable distance.

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.

7.2. Conditions for safe storage, including any incompatibilities**Requirements for storage rooms and vessels**

Keep container tightly closed in a cool, well-ventilated place.

Handle and store contents under inert gas. Protect from moisture.

storage temperature: -20 °C

Hints on joint storage

No special measures are necessary.

7.3. Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Additional advice on limit values**

The receiver of our product is singularly responsible for adhering to existing laws and regulations.

8.2. Exposure controls**Appropriate engineering controls**

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe dust. Remove contaminated, saturated clothing immediately. Protect skin by using skin protective cream. After work, wash hands and face. When using do not eat, drink or smoke. Avoid contact with skin, eyes and clothes. Provide adequate ventilation. Wash hands before breaks and after work.

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Individual protection measures, such as personal protective equipment**Eye/face protection**

Wear eye/face protection.

Hand protection

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. Wear suitable gloves. 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. If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn.

Environmental exposure controls

Discharge into the environment must be avoided.

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

Physical state:	solid
Colour:	white/ whitish
Odour:	No data available
Odour threshold:	not determined

Changes in the physical state

Melting point/freezing point:	not determined
Boiling point or initial boiling point and boiling range:	not determined
Sublimation point:	not determined
Softening point:	not determined
Flash point:	not applicable

Flammability

Solid/liquid:	not determined
Gas:	not applicable

Explosive properties

The product is not: Explosive.

Lower explosion limits:	not determined
Upper explosion limits:	not determined
Auto-ignition temperature:	not determined

Self-ignition temperature

Solid:	not determined
Gas:	not applicable

Decomposition temperature: not determined

pH-Value: not determined

Water solubility: The study does not need to be conducted because the substance is known to be insoluble in water.

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Solubility in other solvents

not determined

Partition coefficient n-octanol/water:

not determined

Vapour pressure:

not determined

Density:

not determined

Relative vapour density:

not determined

9.2. Other information**Information with regard to physical hazard classes**

Sustaining combustion:

No data available

Oxidizing properties

Not oxidising.

Other safety characteristics

Solvent content:

No data available

Solid content:

not determined

Evaporation rate:

not determined

Further Information**SECTION 10: Stability and reactivity****10.1. Reactivity**

No data available

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

No data available

10.4. Conditions to avoid

Protect from moisture.

Keep away from heat.

10.5. Incompatible materials

Oxidizing agents, strong.

10.6. Hazardous decomposition products

Thermal decomposition can lead to the escape of irritating gases and vapours.

In case of fire may be liberated: Carbon dioxide (CO₂). Carbon monoxide (CO).**Further information**

In case of fire: See chapter 5.

SECTION 11: Toxicological information**11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008****Toxicokinetics, metabolism and distribution**

No data available

Acute toxicity

Fatal if swallowed.

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
51481-10-8	Deoxynivalenol				
	oral	LD50 46 mg/kg	Mouse.		

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Irritation and corrosivity

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

Sensitising effects

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

Carcinogenic/mutagenic/toxic effects for reproduction

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

IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Deoxynivalenol)

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.

Specific effects in experiment on an animal

No data available

Additional information on tests

Special hazards arising from the substance or mixture. Classification according to Regulation (EC) No 1272/2008 [CLP]: health hazard properties.

Practical experience

No data available

11.2. Information on other hazards**Other information**

gastrointestinal tract, vomiting. Diarrhea. Nausea. Dizziness. Headache.. Anorexia.

Further information

RTECS: YD0167000

Caution! To the best of our knowledge the toxicological properties of this material have not been thoroughly investigated.

Handle in accordance with good industrial hygiene and safety practice.

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

No data available

12.2. Persistence and degradability

The product has not been tested.

12.3. Bioaccumulative potential

No data available

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

This substance does not meet the criteria for classification as PBT or vPvB.

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. Consult the appropriate local waste disposal expert about waste disposal. Handle contaminated packages in the same way as the substance itself.

List of Wastes Code - residues/unused products

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

List of Wastes Code - used product

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

List of Wastes Code - contaminated packaging

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

Contaminated packaging

Hazardous waste according to Directive 2008/98/EC (waste framework directive). Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information**Land transport (ADR/RID)**

14.1. UN number or ID number:	UN 2811
14.2. UN proper shipping name:	TOXIC SOLID, ORGANIC, N.O.S. (Deoxynivalenol)
14.3. Transport hazard class(es):	6.1
14.4. Packing group:	II
Hazard label:	6.1



Classification code:	T2
Special Provisions:	274 614
Limited quantity:	500 g
Excepted quantity:	E4
Transport category:	2
Hazard No:	60
Tunnel restriction code:	D/E

Inland waterways transport (ADN)

14.1. UN number or ID number:	UN 2811
14.2. UN proper shipping name:	TOXIC SOLID, ORGANIC, N.O.S. (Deoxynivalenol)
14.3. Transport hazard class(es):	6.1
14.4. Packing group:	II
Hazard label:	6.1



Classification code:	T2
Special Provisions:	274 614 802
Limited quantity:	500 g

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Excepted quantity: E4

Marine transport (IMDG)

14.1. UN number or ID number: UN 2811
14.2. UN proper shipping name: TOXIC SOLID, ORGANIC, N.O.S. (Deoxynivalenol)
14.3. Transport hazard class(es): 6.1
14.4. Packing group: II
 Hazard label: 6.1



Special Provisions: 274
 Limited quantity: 500 g
 Excepted quantity: E4
 EmS: F-A, S-A

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number: UN 2811
14.2. UN proper shipping name: TOXIC SOLID, ORGANIC, N.O.S. (Deoxynivalenol)
14.3. Transport hazard class(es): 6.1
14.4. Packing group: II
 Hazard label: 6.1



Special Provisions: A3 A5
 Limited quantity Passenger: 1 kg
 Passenger LQ: Y644
 Excepted quantity: E4
 IATA-packing instructions - Passenger: 669
 IATA-max. quantity - Passenger: 25 kg
 IATA-packing instructions - Cargo: 676
 IATA-max. quantity - Cargo: 100 kg

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

Warning: Acute Toxicity.

14.7. Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information
15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
EU regulatory information

Information according to 2012/18/EU (SEVESO III): H2 ACUTE TOXIC

National regulatory information

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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.

Water hazard class (D): 3 - highly hazardous to water

15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out.

SECTION 16: Other information**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
SVHC: Substance of Very High Concern
For abbreviations and acronyms, see table at <http://abbrev.esdscom.eu>

Relevant H and EUH statements (number and full text)

H300 Fatal if swallowed.

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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