According to Commission Regulation (EU) 2020/878 of amending Regulation (EC) No 1907/2006



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

### 1.1 Product identifier

Product name Aktuan®

Other means of identification

Product code 50002730

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

Use of the Sub- Fungicide

stance/Mixture

**Recommended restrictions** 

on use

Use as recommended by the label.

## 1.3 Details of the supplier of the safety data sheet

Supplier Address Cheminova Deutschland GmbH & Co. KG

Stader Elbstrasse 26

21683 Stade Germany

Telephone: +49 (0) 4141 9204 0 Telefax: +45 (0) 4141 9204 206

E-mail address: datenblatt@fmc.com, SDS-Info@fmc.com.

# 1.4 Emergency telephone number

For leak, fire, spill or accident emergencies, call: Germany: +49-69643508409 (CHEMTREC)

0800-181-7059 (CHEMTREC)

Medical emergency:

Germany: +49 (0) 551 19240

#### **SECTION 2: Hazards identification**

#### 2.1 Classification of the substance or mixture

# Classification (REGULATION (EC) No 1272/2008)

Acute toxicity, Category 4 H302: Harmful if swallowed.

Acute toxicity, Category 4 H332: Harmful if inhaled.

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Eye irritation, Category 2 H319: Causes serious eye irritation.

Skin sensitisation, Category 1 H317: May cause an allergic skin reaction.

Carcinogenicity, Category 2 H351: Suspected of causing cancer.

Reproductive toxicity, Category 2 H361fd: Suspected of damaging fertility. Suspected

of damaging the unborn child.

Specific target organ toxicity - repeated

exposure, Category 2

H373: May cause damage to organs through pro-

longed or repeated exposure.

Short-term (acute) aquatic hazard, Cate-

gory 1

H400: Very toxic to aquatic life.

Long-term (chronic) aquatic hazard, Cat-

egory 1

H410: Very toxic to aquatic life with long lasting

effects.

#### 2.2 Label elements

### Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :







Signal word : Warning

Hazard statements : H302 + H332 Harmful if swallowed or if inhaled.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.H351 Suspected of causing cancer.

H361fd Suspected of damaging fertility. Suspected of damag-

ing the unborn child.

H373 May cause damage to organs through prolonged or

repeated exposure.

H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements : Prevention:

P201 Obtain special instructions before use.

P260 Do not breathe dust.

P264 Wash skin thoroughly after handling.

P280 Wear protective gloves/ protective clothing/ eye protec-

tion/ face protection.

Response:

P391 Collect spillage.

Disposal:

P501 Dispose of contents/container in accordance with local

regulation.

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### Hazardous components which must be listed on the label:

dithianon (ISO) cymoxanil (ISO)

## **Additional Labelling**

EUH401 To avoid risks to human health and the environment, comply with the instruc-

tions for use.

For special phrases (SP) and safety intervals, consult the label.

#### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

# **SECTION 3: Composition/information on ingredients**

#### 3.2 Mixtures

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
dithianon (ISO)	3347-22-6 222-098-6 613-021-00-0	Acute Tox. 4; H302 Acute Tox. 2; H330 Eye Dam. 1; H318 Skin Sens. 1A; H317 Carc. 2; H351 Aquatic Acute 1; H400 Aquatic Chronic 1; H410  M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 1	25

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		Acute inhalation toxicity (dust/mist): 0,31 mg/l	
cymoxanil (ISO)	57966-95-7 261-043-0 616-035-00-5	Acute Tox. 4; H302 Skin Sens. 1; H317 Repr. 2; H361fd STOT RE 2; H373 (Blood, thymus) Aquatic Acute 1; H400 Aquatic Chronic 1; H410  M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 1	10
fumaric acid	110-17-8 203-743-0 607-146-00-X	Eye Irrit. 2; H319	< 15
Substances with a workplace	e exposure limit :		
silicon dioxide	7631-86-9 231-545-4		< 10

For explanation of abbreviations see section 16.

### **SECTION 4: First aid measures**

### 4.1 Description of first aid measures

General advice : Move out of dangerous area.

Show this safety data sheet to the doctor in attendance.

Do not leave the victim unattended.

If inhaled : If unconscious, place in recovery position and seek medical

advice.

Remove person to fresh air. If signs/symptoms continue, get

medical attention.

In case of skin contact : If on clothes, remove clothes.

If on skin, rinse well with water.

Wash off with soap and plenty of water.

Get medical attention if irritation develops and persists.

In case of eye contact : Immediately flush eye(s) with plenty of water.

Remove contact lenses. Protect unharmed eye.

Keep eye wide open while rinsing.

If eye irritation persists, consult a specialist.

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If swallowed : Do not induce vomiting without medical advice.

Keep respiratory tract clear.

Do not give milk or alcoholic beverages.

Never give anything by mouth to an unconscious person.

If symptoms persist, call a physician. Take victim immediately to hospital.

4.2 Most important symptoms and effects, both acute and delayed

Risks : Harmful if swallowed or if inhaled.

May cause an allergic skin reaction. Causes serious eye irritation. Suspected of causing cancer.

Suspected of damaging fertility. Suspected of damaging the

unborn child.

May cause damage to organs through prolonged or repeated

exposure.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically.

### **SECTION 5: Firefighting measures**

5.1 Extinguishing media

Suitable extinguishing media : Dry chemical, CO2, water spray or regular foam.

Unsuitable extinguishing

media

High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-

fighting

Do not allow run-off from fire fighting to enter drains or water

courses.

Hazardous combustion prod-

ucts

Thermal decomposition can lead to release of irritating gases

and vapours. Carbon oxides Hydrogen chloride

Sulphur oxides Nitrogen oxides (NOx) Chlorine compounds

5.3 Advice for firefighters

Special protective equipment :

for firefighters

Wear self-contained breathing apparatus for firefighting if nec-

essary.

Further information : Collect contaminated fire extinguishing water separately. This

must not be discharged into drains.

Fire residues and contaminated fire extinguishing water must

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be disposed of in accordance with local regulations.

#### **SECTION 6: Accidental release measures**

### 6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment.

Avoid dust formation. Avoid breathing dust.

Never return spills in original containers for re-use.

Mark the contaminated area with signs and prevent access to

unauthorized personnel.

Only qualified personnel equipped with suitable protective

equipment may intervene.

For disposal considerations see section 13.

### 6.2 Environmental precautions

Environmental precautions : Prevent product from entering drains.

Prevent further leakage or spillage if safe to do so.

If the product contaminates rivers and lakes or drains inform

respective authorities.

#### 6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Keep in suitable, closed containers for disposal.

#### 6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

### **SECTION 7: Handling and storage**

### 7.1 Precautions for safe handling

Advice on safe handling : Avoid formation of respirable particles.

Do not breathe vapours/dust.

Avoid exposure - obtain special instructions before use.

Avoid contact with skin and eyes. For personal protection see section 8.

Smoking, eating and drinking should be prohibited in the ap-

plication area.

Dispose of rinse water in accordance with local and national

regulations.

Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being

used.

Advice on protection against

fire and explosion

Avoid dust formation. Provide appropriate exhaust ventilation

at places where dust is formed.

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Hygiene measures : When using do not eat or drink. When using do not smoke.

Wash hands before breaks and at the end of workday.

## 7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers

: Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Electrical installations / working materials must

comply with the technological safety standards.

Storage class (TRGS 510) : 11, Combustible Solids

Further information on stor-

ruitilei illioilliation on stoi-

age stability

Keep in a dry place.

No decomposition if stored and applied as directed.

7.3 Specific end use(s)

Specific use(s) : Registered pesticide to be used in accordance with a label

approved by country-specific regulatory authorities.

## **SECTION 8: Exposure controls/personal protection**

### 8.1 Control parameters

#### **Occupational Exposure Limits**

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
silicon dioxide	7631-86-9	TWA (Respirable	0,1 mg/m3	2004/37/EC
		dust)		
Further information	Carcinogens or mutagens			
		AGW (Inhalable	4 mg/m3	DE TRGS
		fraction)	(Silica)	900
Further information	Senate commission for the review of compounds at the work place dangerous for the health (MAK-commission)., Colloidal amorphous silica, including pyrogenic silica and in wet processes manufactured silica (precipitated silica, silicagel)., When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child			

### Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
fumaric acid	Workers	Inhalation	Long-term systemic effects	42,32 mg/m3
	Workers	Dermal	Long-term systemic effects	12 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	10,43 mg/m3
	Consumers	Dermal	Long-term systemic effects	6 mg/kg bw/day
	Consumers	Oral	Long-term systemic effects	6 mg/kg bw/day

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# Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
fumaric acid	Sewage treatment plant	30 mg/l

## 8.2 Exposure controls

Personal protective equipment

Eye protection : Eye wash bottle with pure water

Tightly fitting safety goggles

Wear face-shield and protective suit for abnormal processing

problems.

Hand protection

Material : Wear chemical resistant gloves, such as barrier laminate,

butyl rubber or nitrile rubber.

Remarks : The suitability for a specific workplace should be discussed

with the producers of the protective gloves.

Skin and body protection : Dust impervious protective suit

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Respiratory protection : Use respiratory protection unless adequate local exhaust ven-

tilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.

Equipment should conform to EN 143

Filter type : Particulates type (P)

Protective measures : Plan first aid action before beginning work with this product.

In the context of professional plant protection use as recommended, the end user must refer to the label and the instruc-

tions for use.

### **SECTION 9: Physical and chemical properties**

### 9.1 Information on basic physical and chemical properties

Appearance : powder

Colour : brown

Odour : characteristic

Odour Threshold : not determined

Melting point/freezing point : not determined

Boiling point/boiling range : not determined

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Flammability : Not highly flammable

Upper explosion limit / Upper

flammability limit

not determined

Lower explosion limit / Lower

flammability limit

60 mg/m3

Flash point : Not applicable

Decomposition temperature : 150 - 250 °C

Decomposition energy (mass): 340 KJ/kg

Self-Accelerating decomposi-

tion temperature (SADT)

> 75 °C

> 90 °C

Not a self-reactive substance as defined by UN Transport

Classification, Class 4.1.

pH : 6 - 8 (20 °C)

Viscosity

Viscosity, kinematic : Not applicable

Solubility(ies)

Water solubility : dispersible

Vapour pressure : Not applicable

Bulk density : 300 - 410 kg/m3

Relative vapour density : Not applicable

9.2 Other information

Explosives : Not explosive

Oxidizing properties : Non-oxidizing

Self-ignition : not auto-flammable

Self-heating substances : It is not a self-heating substance as defined by UN transport

classification Class 4.2.

Evaporation rate : Not applicable

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**SECTION 10: Stability and reactivity** 

10.1 Reactivity

No decomposition if stored and applied as directed.

10.2 Chemical stability

No decomposition if stored and applied as directed.

10.3 Possibility of hazardous reactions

Hazardous reactions : No decomposition if stored and applied as directed.

Dust may form explosive mixture in air.

10.4 Conditions to avoid

Conditions to avoid : Heat, flames and sparks.

10.5 Incompatible materials

Materials to avoid : Avoid strong acids, bases, and oxidizers

10.6 Hazardous decomposition products

Stable under recommended storage conditions.

**SECTION 11: Toxicological information** 

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

**Acute toxicity** 

Harmful if swallowed or if inhaled.

**Product:** 

Acute oral toxicity : LD50 (Rat): > 2.000 mg/kg

Method: OECD Test Guideline 401

Assessment: The component/mixture is moderately toxic after

single ingestion.

Remarks: Harmful if swallowed.

Acute inhalation toxicity : LC50 (Rat): 2,9 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Method: OECD Test Guideline 403

Acute dermal toxicity : LD50 (Rat): > 2.000 mg/kg

Method: OECD Test Guideline 402

**Components:** 

dithianon (ISO):

Acute inhalation toxicity : LC50 (Rat): 0,31 mg/l

Exposure time: 4 h

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Test atmosphere: dust/mist

Acute toxicity estimate: 0,31 mg/l Test atmosphere: dust/mist Method: Calculation method

Acute dermal toxicity : LD50 (Rat): > 2.000 mg/kg

Assessment: The component/mixture is minimally toxic after

single contact with skin.

cymoxanil (ISO):

Acute oral toxicity : (Rat): 300 - 2.000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 5,06 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rabbit): > 2.000 mg/kg

LD50 (Rat): > 2.000 mg/kg

fumaric acid:

Acute oral toxicity : LD50 (Rat, male): 10.700 mg/kg

Method: OECD Test Guideline 401

Acute inhalation toxicity : LC0 (Rat, male and female): 1,306 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Method: OECD Test Guideline 403

Remarks: no mortality

Acute dermal toxicity : LD50 (Rabbit, female): 20.000 mg/kg

Method: OECD Test Guideline 402

silicon dioxide:

Acute oral toxicity : LD50 (Rat, male and female): > 5.000 mg/kg

Method: OECD Test Guideline 401

Remarks: Based on data from similar materials

Acute inhalation toxicity : LC0 (Rat, male and female): > 0,14 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Remarks: Based on data from similar materials

no mortality

Acute dermal toxicity : LD50 Dermal (Rabbit): > 5.000 mg/kg

Remarks: Based on data from similar materials

### Skin corrosion/irritation

Not classified based on available information.

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**Product:** 

Species : Rabbit

Method : OECD Test Guideline 404

Result : No skin irritation

**Components:** 

cymoxanil (ISO):

Species : Rabbit

Result : No skin irritation

fumaric acid:

Species : Rabbit

Method : OECD Test Guideline 404

Result : slight irritation

silicon dioxide:

Species : Rabbit

Method : OECD Test Guideline 404

Result : No skin irritation

Remarks : Based on data from similar materials

Serious eye damage/eye irritation

Causes serious eye irritation.

**Product:** 

Species : Rabbit

Method : OECD Test Guideline 405

Result : Eye irritation

**Components:** 

dithianon (ISO):

Assessment : Risk of serious damage to eyes.

Result : Severe eye irritation

cymoxanil (ISO):

Species : Rabbit

Result : No eye irritation

fumaric acid:

Species : Rabbit

Method : OECD Test Guideline 405
Result : Moderate eye irritation

silicon dioxide:

Species : Rabbit

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Method : OECD Test Guideline 405

Result : No eye irritation

Remarks : Based on data from similar materials

### Respiratory or skin sensitisation

#### Skin sensitisation

May cause an allergic skin reaction.

## Respiratory sensitisation

Not classified based on available information.

**Product:** 

Species : Guinea pig

Method : OECD Test Guideline 406

Result : May cause sensitisation by skin contact.

**Components:** 

dithianon (ISO):

Assessment : The product is a skin sensitiser, sub-category 1A.

Result : May cause sensitisation by skin contact.

cymoxanil (ISO):

Result : May cause sensitisation by skin contact.

fumaric acid:

Test Type : Maximisation Test

Species : Guinea pig

Method : OECD Test Guideline 406

Result : Does not cause skin sensitisation.

silicon dioxide:

Remarks : No data available

### Germ cell mutagenicity

Not classified based on available information.

**Components:** 

dithianon (ISO):

Genotoxicity in vitro : Method: OECD Test Guideline 473

Result: equivocal

Method: OECD Test Guideline 472

Result: equivocal

cymoxanil (ISO):

Germ cell mutagenicity- As- : Weight of evidence does not support classification as a germ

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sessment cell mutagen.

fumaric acid:

Genotoxicity in vitro Test Type: In vitro mammalian cell gene mutation test

Method: OECD Test Guideline 476

Result: negative

Test Type: Chromosome aberration test in vitro

Method: OECD Test Guideline 473

Result: negative

silicon dioxide:

Genotoxicity in vitro Test Type: reverse mutation assay

Method: OECD Test Guideline 471

Result: negative

Remarks: Based on data from similar materials

Test Type: In vitro mammalian cell gene mutation test

Method: OECD Test Guideline 476

Result: negative

Remarks: Based on data from similar materials

Genotoxicity in vivo Test Type: chromosome aberration assay

> Species: Rat (male) Application Route: Oral

Result: negative

Remarks: Based on data from similar materials

Test Type: Rodent Dominant Lethal Assay

Species: Rat (male) Application Route: Oral Result: negative

Remarks: Based on data from similar materials

Germ cell mutagenicity- As-

sessment

Weight of evidence does not support classification as a germ

cell mutagen.

Carcinogenicity

Suspected of causing cancer.

**Components:** 

dithianon (ISO):

Remarks In long-term tests, the substance had a carcinogenic effect in

> organotoxic doses. In long-term studies on mice, the substance did not have a carcinogenic effect when administered

in the feed.

Carcinogenicity - Assess-

ment

Limited evidence of carcinogenicity in animal studies

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cymoxanil (ISO):

Carcinogenicity - Assess-

ment

: Weight of evidence does not support classification as a car-

cinogen

silicon dioxide:

Species : Rat
Application Route : Oral
Exposure time : 103 weeks

NOAEL : 1.800 - 3.000 mg/kg bw/day

Result : negative

Remarks : Based on data from similar materials

Carcinogenicity - Assess-

ment

Weight of evidence does not support classification as a car-

cinogen

Reproductive toxicity

Suspected of damaging fertility. Suspected of damaging the unborn child.

**Components:** 

dithianon (ISO):

Effects on foetal develop-

ment

Remarks: The substance did not cause malformations in animal tests; large amounts at which the weight development of

the parent animals was impaired showed a fruit-damaging

effect.

cymoxanil (ISO):

Reproductive toxicity - As-

sessment

Clear evidence of adverse effects on sexual function and fertil-

ity, and/or on development, based on animal experiments

silicon dioxide:

Effects on fertility : Result: negative

Remarks: Based on data from similar materials

Effects on foetal develop-

ment

Species: Hamster

Application Route: Oral

Duration of Single Treatment: 6 - 10 d

General Toxicity Maternal: NOAEL: 1.600 mg/kg body weight

Teratogenicity: NOAEL: 1.600 mg/kg body weight

Method: OECD Test Guideline 414

Remarks: Based on data from similar materials

Species: Mouse Application Route: Oral

Duration of Single Treatment: 6 - 15 d

General Toxicity Maternal: NOAEL: 1.600 mg/kg body weight

Teratogenicity: NOAEL: 1.600 mg/kg body weight

Method: OECD Test Guideline 414

Remarks: Based on data from similar materials

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Species: Rabbit

Application Route: Oral

Duration of Single Treatment: 6 - 18 d

General Toxicity Maternal: NOAEL: 1.600 mg/kg body weight

Teratogenicity: NOAEL: 1.600 mg/kg body weight

Method: OECD Test Guideline 414

Remarks: Based on data from similar materials

Species: Rat

**Application Route: Oral** 

Duration of Single Treatment: 6 - 15 d

General Toxicity Maternal: NOAEL: 1.600 mg/kg body weight

Teratogenicity: NOAEL: 1.600 mg/kg body weight

Method: OECD Test Guideline 414

Remarks: Based on data from similar materials

Reproductive toxicity - As-

sessment

Weight of evidence does not support classification for repro-

ductive toxicity

#### STOT - single exposure

Not classified based on available information.

#### STOT - repeated exposure

May cause damage to organs through prolonged or repeated exposure.

#### **Components:**

### cymoxanil (ISO):

Target Organs : thymus, Blood

Assessment : The substance or mixture is classified as specific target organ

toxicant, repeated exposure, category 2.

silicon dioxide:

Assessment : The substance or mixture is not classified as specific target

organ toxicant, repeated exposure.

#### Repeated dose toxicity

#### **Components:**

# cymoxanil (ISO):

Species : Rat, male
NOEL : 4,1 mg/kg
Application Route : Oral
Exposure time : 2 years

Species: Rat, femaleNOEL: 5,4 mg/kgApplication Route: OralExposure time: 2 years

Species : Mouse, male

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NOEL : 4,2 mg/kg Application Route : Oral Exposure time : 2 years

Species : Mouse, female NOEL : 5,8 mg/kg
Application Route : Oral : 2 years

Species : Dog, male and female

NOEL : 3 mg/kg Application Route : Oral Exposure time : 2 years

silicon dioxide:

Species : Rat, male and female

NOAEL : 2.500 mg/kg Application Route : Oral

Exposure time : 103 weeks

Dose : 0, 625, 1250, 2500 mg/kg bw/da Method : OECD Test Guideline 452

Remarks : Based on data from similar materials

Species : Rat, male and female

NOAEL : 0,0013 mg/l LOAEL : 0,0059 mg/l

Application Route : inhalation (dust/mist/fume)

Exposure time : 90d

Dose : .0013, .0059, .031 mg/kg Method : OECD Test Guideline 413

Remarks : Based on data from similar materials

#### **Aspiration toxicity**

Not classified based on available information.

#### 11.2 Information on other hazards

### **Endocrine disrupting properties**

**Product:** 

Assessment : The substance/mixture does not contain components consid-

ered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at

levels of 0.1% or higher.

### **Neurological effects**

#### **Components:**

dithianon (ISO):

Remarks : No neurotoxicity observed in animal studies

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**Further information** 

**Product:** 

Remarks : No data available

**SECTION 12: Ecological information** 

12.1 Toxicity

**Product:** 

**Ecotoxicology Assessment** 

Acute aquatic toxicity : Very toxic to aquatic life.

Remarks: No data is available on the product itself. Information given is based on data on the components.

Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

Remarks: No data is available on the product itself. Information given is based on data on the components.

**Components:** 

dithianon (ISO):

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0,044 mg/l

Exposure time: 96 h

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 0,26 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202

Toxicity to algae/aquatic

plants

EC50 (Pseudokirchneriella subcapitata (green algae)): 0,09

mg/l

End point: Growth rate Exposure time: 72 h

EC50 (Selenastrum capricornutum (green algae)): 0,298 mg/l

End point: Growth rate Exposure time: 72 h

NOEC (Pseudokirchneriella subcapitata (green algae)): 0,025

mg/l

End point: Growth rate Exposure time: 72 h

M-Factor (Acute aquatic tox-

icity)

10

Toxicity to fish (Chronic tox-

icity)

NOEC: 0,02 mg/l Exposure time: 21 d

Species: Oncorhynchus mykiss (rainbow trout)

According to Commission Regulation (EU) 2020/878 of amending Regulation (EC) No 1907/2006



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Toxicity to daphnia and other :

aquatic invertebrates (Chron-

ic toxicity)

NOEC: 0,05 mg/l Exposure time: 21 d

Species: Daphnia magna (Water flea)

M-Factor (Chronic aquatic

toxicity)

Toxicity to soil dwelling or-

ganisms

LC50: 578 mg/kg Exposure time: 14 d

Species: worms

NOEC: 22,3 mg/kg Exposure time: 14 d Species: worms

cymoxanil (ISO):

Toxicity to fish LC50 (Brachydanio rerio (zebrafish)): 1 - 10 mg/l

LC50 (Lepomis macrochirus (Bluegill sunfish)): 29 mg/l

Exposure time: 96 h

LC50 (Oncorhynchus mykiss (rainbow trout)): 61 mg/l

Exposure time: 96 h

LC50 (Cyprinodon variegatus (sheepshead minnow)): > 47,5

Exposure time: 96 h

LC50 (Cyprinus carpio (Carp)): 91 mg/l

Exposure time: 96 h

Toxicity to daphnia and other :

aquatic invertebrates

LC50 (Daphnia magna (Water flea)): 10 mg/l

LC50 (Americamysis bahia (mysid shrimp)): > 44.4 parts per

million

Toxicity to algae/aquatic

plants

EC50 (Selenastrum capricornutum (green algae)): 1,21 mg/l

Exposure time: 5 d

EC50 (Pseudokirchneriella subcapitata (green algae)): < 0,66

mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

M-Factor (Acute aquatic tox-

icity)

M-Factor (Chronic aquatic

toxicity)

: 1

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Toxicity to soil dwelling or-

ganisms

: LC50: > 2.208 mg/kg Exposure time: 14 d Species: worms

·

Toxicity to terrestrial organisms

Species: Anas platyrhynchos (Mallard duck)

LD50: > 25 µg/bee Exposure time: 48 d

LD50: > 2.250 mg/kg

Species: Apis mellifera (bees)

fumaric acid:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): 100 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 100 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202

Toxicity to algae/aquatic

plants

EC50 (Pseudokirchneriella subcapitata (algae)): 100 mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

Toxicity to microorganisms : EC50 (activated sludge): 300 mg/l

Exposure time: 3 h

Method: OECD Test Guideline 209

silicon dioxide:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 100 mg/l

Exposure time: 96 h Test Type: semi-static test

Method: OECD Test Guideline 203

Remarks: Based on data from similar materials

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): > 1.003 mg/l

Exposure time: 24 h Test Type: static test

Method: OECD Test Guideline 202

Remarks: Based on data from similar materials

Toxicity to algae/aquatic

plants

EC50 (Skeletonema costatum (marine diatom)): 4.200 mg/l

Exposure time: 72 h Test Type: static test Method: ISO 10253

Remarks: Based on data from similar materials

NOEC (Skeletonema costatum (marine diatom)): 323 mg/l

Exposure time: 72 h Test Type: static test Method: ISO 10253

Remarks: Based on data from similar materials

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Toxicity to microorganisms : EC50 (Bacteria): 5.000 mg/l

Exposure time: 20 h

Test Type: Growth inhibition

Remarks: Based on data from similar materials

Toxicity to fish (Chronic tox-

icity)

NOEC: 86,03 mg/l Exposure time: 30 d

Species: Fish Method: QSAR

Toxicity to daphnia and other : aquatic invertebrates (Chron-

ic toxicity)

NOEC: 100 mg/l Exposure time: 21 d

Species: Daphnia magna (Water flea)

Test Type: semi-static test

Method: OECD Test Guideline 211

Remarks: Based on data from similar materials

#### 12.2 Persistence and degradability

**Product:** 

Biodegradability : Remarks: No data is available on the product itself.

**Components:** 

dithianon (ISO):

Biodegradability : Result: Not readily biodegradable.

cymoxanil (ISO):

Biodegradability : Remarks: Not readily biodegradable.

Stability in water : Degradation half life (DT50): 1 d

fumaric acid:

Biodegradability : Result: Readily biodegradable.

Biodegradation: 67,5 % Exposure time: 28 d

Method: OECD Test Guideline 301B

silicon dioxide:

Biodegradability : Remarks: The methods for determining biodegradability are

not applicable to inorganic substances.

### 12.3 Bioaccumulative potential

**Product:** 

Bioaccumulation : Remarks: No data is available on the product itself.

According to Commission Regulation (EU) 2020/878 of amending Regulation (EC) No 1907/2006



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**Components:** 

dithianon (ISO):

Bioaccumulation : Species: Oncorhynchus mykiss (rainbow trout)

Exposure time: 3 d

Bioconcentration factor (BCF): 28 Method: OECD Test Guideline 305E Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-

octanol/water

log Pow: 3,2

cymoxanil (ISO):

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

fumaric acid:

Partition coefficient: n-

octanol/water

log Pow: -4,02

silicon dioxide:

Bioaccumulation : Bioconcentration factor (BCF): 3,16

Method: QSAR

Partition coefficient: n-

octanol/water

log Pow: 0,53 (25 °C)

pH: 7

12.4 Mobility in soil

Product:

Distribution among environ-

mental compartments

: Remarks: No data is available on the product itself.

**Components:** 

dithianon (ISO):

Distribution among environ-

mental compartments

Remarks: In case of entry into soils, binding to solid soil particles is to be expected. Entry into groundwater is not to be

expected.

cymoxanil (ISO):

Distribution among environ-

mental compartments

Remarks: Mobile in soils

Stability in soil :

12.5 Results of PBT and vPvB assessment

**Product:** 

According to Commission Regulation (EU) 2020/878 of amending Regulation (EC) No 1907/2006



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Assessment : This substance/mixture contains no components considered

to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of

0.1% or higher.

### 12.6 Endocrine disrupting properties

### **Product:**

Assessment : The substance/mixture does not contain components consid-

ered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at

levels of 0.1% or higher.

#### 12.7 Other adverse effects

## Product:

Additional ecological infor-

mation

An environmental hazard cannot be excluded in the event of

unprofessional handling or disposal.

Very toxic to aquatic life with long lasting effects.

## **SECTION 13: Disposal considerations**

#### 13.1 Waste treatment methods

Product : The product should not be allowed to enter drains, water

courses or the soil.

Do not contaminate ponds, waterways or ditches with chemi-

cal or used container.

Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.

Do not re-use empty containers.

Packaging that is not properly emptied must be disposed of as

the unused product.

Empty containers should be taken to an approved waste han-

dling site for recycling or disposal.

#### **SECTION 14: Transport information**

### 14.1 UN number or ID number

ADN : UN 3077
ADR : UN 3077
RID : UN 3077
IMDG : UN 3077
IATA : UN 3077

According to Commission Regulation (EU) 2020/878 of amending Regulation (EC) No 1907/2006



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14.2 UN proper shipping name

ADN : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,

N.O.S.

(Cymoxanil, dithianon)

ADR : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,

N.O.S.

(Cymoxanil, dithianon)

RID : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,

N.O.S.

(Cymoxanil, dithianon)

IMDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,

N.O.S.

(Cymoxanil, dithianon)

IATA : Environmentally hazardous substance, solid, n.o.s.

(Cymoxanil, dithianon)

14.3 Transport hazard class(es)

Class Subsidiary risks

**ADN** : 9 **ADR** : 9 **RID** : 9

**IMDG** : 9

**IATA** : 9

14.4 Packing group

ADN

Packing group : III
Classification Code : M7
Hazard Identification Number : 90
Labels : 9

**ADR** 

Packing group : III
Classification Code : M7
Hazard Identification Number : 90
Labels : 9
Tunnel restriction code : (-)

RID

Packing group : III
Classification Code : M7
Hazard Identification Number : 90
Labels : 9

**IMDG** 

Packing group : III Labels : 9

EmS Code : F-A, S-F

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IATA (Cargo)

Packing instruction (cargo : 956

aircraft)

Packing instruction (LQ) : Y956
Packing group : III

Labels : Miscellaneous

IATA (Passenger)

Packing instruction (passen: 956

ger aircraft)

Packing instruction (LQ) : Y956
Packing group : III

Labels : Miscellaneous

14.5 Environmental hazards

**ADN** 

Environmentally hazardous : yes

ADR

Environmentally hazardous : yes

RID

Environmentally hazardous : yes

**IMDG** 

Marine pollutant : yes

IATA (Passenger)

Environmentally hazardous : yes

IATA (Cargo)

Environmentally hazardous : yes

14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

**SECTION 15: Regulatory information** 

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

REACH - Restrictions on the manufacture, placing on

the market and use of certain dangerous substances,

mixtures and articles (Annex XVII)

REACH - Candidate List of Substances of Very High

Concern for Authorisation (Article 59).

Not applicable

Not applicable

Regulation (EC) No 1005/2009 on substances that de- : Not applicable

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plete the ozone layer

Regulation (EU) 2019/1021 on persistent organic pollu-Not applicable

tants (recast)

Regulation (EC) No 649/2012 of the European Parlia-Not applicable

ment and the Council concerning the export and import

of dangerous chemicals

REACH - List of substances subject to authorisation Not applicable

(Annex XIV)

Seveso III: Directive 2012/18/EU of the Euro-E1 **ENVIRONMENTAL HAZARDS** 

pean Parliament and of the Council on the control of major-accident hazards involving

dangerous substances.

Water hazard class (Germa: WGK 3 highly hazardous to water

Classification according to AwSV, Annex 1 (5.2)

TA Luft List (Germany) 5.2.1 Total dust:

Not applicable

5.2.2 Inorganic substances in powdered form:

Not applicable

5.2.4 Inorganic substances in gaseous form:

Not applicable

5.2.5 Organic Substances:

Not applicable

5.2.7.1.1 Carcinogenic substance:

Not applicable

5.2.7.1.1 Quartz fine dust PM4:

Not applicable

5.2.7.1.1 Formaldehyde:

Not applicable

5.2.7.1.2 Germ cell mutagens:

Not applicable

5.2.7.1.3 Substances toxic to reproduction:

Not applicable

5.2.7.2 Poorly degradable, easily enrichable and highly toxic

organic substances:

Not applicable

#### Other regulations:

Take note of Law on the protection of mothers at work, in education and in studies (Maternity Protection Act - MuSchG).

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

The components of this product are reported in the following inventories:

**TCSI** : On the inventory, or in compliance with the inventory

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TSCA : Product contains substance(s) not listed on TSCA inventory.

AIIC : Not in compliance with the inventory

DSL : This product contains the following components that are not

on the Canadian DSL nor NDSL.

dithianon (ISO) cymoxanil (ISO)

ENCS : Not in compliance with the inventory

ISHL : Not in compliance with the inventory

KECI : On the inventory, or in compliance with the inventory

PICCS : Not in compliance with the inventory

IECSC : On the inventory, or in compliance with the inventory

NZIoC : Not in compliance with the inventory

TECI: Not in compliance with the inventory

#### 15.2 Chemical safety assessment

No Chemical Safety Assessment has been carried out for this mixture.

#### **SECTION 16: Other information**

#### **Full text of H-Statements**

H302 : Harmful if swallowed.

H317 : May cause an allergic skin reaction.
H318 : Causes serious eye damage.
H319 : Causes serious eye irritation.

H330 : Fatal if inhaled.

H351 : Suspected of causing cancer.

H361fd : Suspected of damaging fertility. Suspected of damaging the

unborn child.

H373 : May cause damage to organs through prolonged or repeated

exposure.

H400 : Very toxic to aquatic life.

H410 : Very toxic to aquatic life with long lasting effects.

### Full text of other abbreviations

Acute Tox. : Acute toxicity

Aquatic Acute : Short-term (acute) aquatic hazard
Aquatic Chronic : Long-term (chronic) aquatic hazard

Carc. : Carcinogenicity
Eye Dam. : Serious eye damage
Eye Irrit. : Eye irritation

Repr. : Reproductive toxicity

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Skin Sens. : Skin sensitisation

STOT RE : Specific target organ toxicity - repeated exposure

2004/37/EC : Europe. Directive 2004/37/EC on the protection of workers

from the risks related to exposure to carcinogens or mutagens

at work

DE TRGS 900 : Germany. TRGS 900 - Occupational exposure limit values.

2004/37/EC / TWA : Long term exposure limit DE TRGS 900 / AGW : Time Weighted Average

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways: ADR - Agreement concerning the International Carriage of Dangerous Goods by Road: AIIC - Australian Inventory of Industrial Chemicals: ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA -European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI -Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

#### **Further information**

Classification of the m	ixture:	Classification procedure:
Acute Tox. 4	H302	Based on product data or assessment
Acute Tox. 4	H332	Based on product data or assessment
Eye Irrit. 2	H319	Based on product data or assessment
Skin Sens. 1	H317	Based on product data or assessment
Carc. 2	H351	Calculation method
Repr. 2	H361fd	Calculation method

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STOT	RE 2	H373	Calculation method
Aquati	ic Acute 1	H400	Based on product data or assessment
Aquati	ic Chronic 1	H410	Based on product data or assessment

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