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

#### 1.1 Product identifier

Trade name : ARADUR® 917 CH

Unique Formula Identifier

(UFI)

: UR68-U0EX-A00N-FCTR

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

Use of the : Hardener

Substance/Mixture

Recommended restrictions

on use

: For industrial use only.

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

Company : Huntsman Advanced Materials (Europe)BVBA

Address : Everslaan 45

3078 Everberg

Belgium

Telephone : +41 61 299 20 41 Telefax : +41 61 299 20 40

E-mail address of person responsible for the SDS

: Global\_Product\_EHS\_AdMat@huntsman.com

## 1.4 Emergency telephone number

Emergency telephone number : Centres Antipoison et de Toxicovigilance:

ANGERS: 02 41 48 21 21 BORDEAUX: 05 56 96 40 80

LILLE: 0 825 812 822 LYON: 04 72 11 69 11 MARSEILLE 04 91 75 25 25 NANCY: 03 83 32 36 36 PARIS: 01 40 05 48 48 RENNES: 02 99 59 22 22 STRASBOURG: 03 88 37 37 37 TOULOUSE: 05 61 77 74 47 EUROPE: +32 35 75 1234

France ORFILA: +33(0)145425959

ASIA: +65 6336-6011 China: +86 20 39377888 +86 532 83889090 India: + 91 22 42 87 5333

Australia: 1800 786 152 New Zealand: 0800 767 437 USA: +1/800/424.9300

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Enrich

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## **SECTION 2: Hazards identification**

#### 2.1 Classification of the substance or mixture

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

Serious eye damage, Category 1 H318: Causes serious eye damage.

Respiratory sensitisation, Category 1 H334: May cause allergy or asthma symptoms or

breathing difficulties if inhaled.

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

#### 2.2 Label elements

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

Hazard pictograms





Signal word : Danger

Hazard statements : H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

H334 May cause allergy or asthma symptoms or

breathing difficulties if inhaled.

Precautionary statements : **Prevention**:

P261 Avoid breathing mist or vapours.

P280 Wear protective gloves/ eye protection/ face

protection.

P284 Wear respiratory protection.

Response:

P304 + P340 IF INHALED: Remove person to fresh air

and keep comfortable for breathing.

P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously

with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a

POISON CENTER/ doctor.

P342 + P311 If experiencing respiratory symptoms: Call a

POISON CENTER/ doctor.

Hazardous components which must be listed on the label:

tetrahydro-4-methylphthalicanhydride 1,2,3,6-tetrahydro-3-methylphthalic anhydride

1,2,3,6-tetrahydrophthalic anhydride hexahydro-4-methylphthalic anhydride

# 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.

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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

# **Hazardous components**

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concent ration (% w/w)
tetrahydro-4- methylphthalicanhydride	34090-76-1 251-823-9 607-240-00-0 01-2119513209-45	Eye Dam. 1; H318 Resp. Sens. 1; H334 Skin Sens. 1; H317	>= 70 - < 90
1,2,3,6-tetrahydro-3- methylphthalic anhydride	5333-84-6 226-247-6 607-240-00-0 01-2119906338-37	Eye Dam. 1; H318 Resp. Sens. 1; H334 Skin Sens. 1; H317	>= 30 - < 50
hexahydro-4-methylphthalic anhydride	19438-60-9 243-072-0 607-241-00-6 01-2119510879-29	Eye Dam. 1; H318 Resp. Sens. 1; H334 Skin Sens. 1; H317	>= 10 - < 20
1,2,3,6-tetrahydrophthalic anhydride	85-43-8 201-605-4 607-099-00-5 01-2119486679-14	Eye Dam. 1; H318 Resp. Sens. 1; H334 Skin Sens. 1; H317 Aquatic Chronic 3; H412	>= 10 - < 20

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.

Consult a physician.

Show this safety data sheet to the doctor in attendance.

Treat symptomatically.

Get medical attention if symptoms occur.

Protection of first-aiders : First Aid responders should pay attention to self-protection

and use the recommended protective clothing

If potential for exposure exists refer to Section 8 for specific

personal protective equipment.

Avoid inhalation, ingestion and contact with skin and eyes. No action shall be taken involving any personal risk or without

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suitable training.

It may be dangerous to the person providing aid to give

mouth-to-mouth resuscitation.

If inhaled : Call a physician or poison control centre immediately.

If inhaled, remove to fresh air.

Get medical attention if symptoms occur.

In case of skin contact : If on skin, rinse well with water.

In case of eye contact : Small amounts splashed into eyes can cause irreversible

tissue damage and blindness.

In the case of contact with eyes, rinse immediately with plenty

of water and seek medical advice.

Continue rinsing eyes during transport to hospital.

Remove contact lenses.

Keep eye wide open while rinsing.

If eye irritation persists, consult a specialist.

If swallowed : Keep respiratory tract clear.

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

None known.

# 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 : Water spray

Alcohol-resistant foam Carbon dioxide (CO2)

Dry chemical

Unsuitable extinguishing

media

Exercise caution when using a high volume water jet as it may

scatter and spread fire

# 5.2 Special hazards arising from the substance or mixture

Specific hazards during

firefighting

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

courses.

Hazardous combustion

products

: Carbon oxides

#### 5.3 Advice for firefighters

Special protective equipment : Wear self-contained breathing apparatus for firefighting if

according to Regulation (EC) No. 1907/2006



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for firefighters necessary.

Specific extinguishing

methods

: No data is available on the product itself.

Further information : Collect contaminated fire extinguishing water separately. This

must not be discharged into drains.

Fire residues and contaminated fire extinguishing water must

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.

Ensure adequate ventilation.

Refer to protective measures listed in sections 7 and 8.

#### 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 : Neutralize with chalk, alkali solution or ammonia.

Soak up with inert absorbent material (e.g. sand, silica gel,

acid binder, universal binder, sawdust).

Keep in suitable, closed containers for disposal.

#### 6.4 Reference to other sections

For disposal considerations see section 13., See Section 1 for emergency contact information., For personal protection see section 8.

# **SECTION 7: Handling and storage**

#### 7.1 Precautions for safe handling

Advice on safe handling : Repeated or prolonged skin contact may cause skin irritation

and/or dermatitis and sensitisation of susceptible persons. Persons suffering from asthma, eczema or skin problems should avoid contact, including dermal contact, with this

product.

Do not breathe vapours or spray mist.

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

application area.

To avoid spills during handling keep bottle on a metal tray. Dispose of rinse water in accordance with local and national

according to Regulation (EC) No. 1907/2006



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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.

Use only with adequate ventilation/personal protection. Provide sufficient air exchange and/or exhaust in work rooms.

Keep container closed when not in use.

Advice on protection against :

fire and explosion

Normal measures for preventive fire protection.

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. Keep in properly

labelled containers.

Advice on common storage : Keep away from strong bases.

Recommended storage

temperature

: 2 - 40 °C

Further information on

storage stability

Stable under normal conditions.

7.3 Specific end use(s)

Specific use(s) : No data available

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

#### 8.1 Control parameters

Contains no substances with occupational exposure limit values.

#### 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 : butyl-rubber

Break through time : > 8 h

Material : Ethyl Vinyl Alcohol Laminate (EVAL)

Break through time : > 8 h

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Material : Nitrile rubber Break through time : 10 - 480 min

Remarks : Chemical-resistant, impervious gloves complying with an

approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Skin and body protection : Impervious clothing

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

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

Filter type : Combined particulates and organic vapour type (A-P)

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

## 9.1 Information on basic physical and chemical properties

Physical state : liquid

Colour : No data is available on the product itself.

Odour : slight

Odour Threshold : No data is available on the product itself.

pH : ca. 3 (20 °C)

Concentration: 500 g/l

Melting point/freezing point : No data is available on the product itself.

Boiling point : > 200 °C

Flash point : 159 °C

Method: Pensky-Martens closed cup

Flammability (solid, gas) : No data is available on the product itself.

Upper explosion limit / Upper

flammability limit

: No data is available on the product itself.

Lower explosion limit / Lower

flammability limit

: No data is available on the product itself.

Vapour pressure : ca. 0,01 hPa (20 °C)

Relative vapour density : No data is available on the product itself.

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Relative density : 1,2 (25 °C)

Density : 1,2 g/cm3 (25 °C)

Solubility(ies)

Water solubility : Decomposes in contact with water.

Solubility in other solvents : No data is available on the product itself.

Partition coefficient: n-

octanol/water

: No data is available on the product itself.

Auto-ignition temperature : No data is available on the product itself.

Decomposition temperature : > 200 °C

Viscosity

Viscosity, dynamic : 50 - 100 mPa.s (25 °C)

#### 9.2 Other information

No data available

# **SECTION 10: Stability and reactivity**

## 10.1 Reactivity

No dangerous reaction known under conditions of normal use.

# 10.2 Chemical stability

Stable under normal conditions.

# 10.3 Possibility of hazardous reactions

Hazardous reactions : No hazards to be specially mentioned.

10.4 Conditions to avoid

Conditions to avoid : None known.

10.5 Incompatible materials

Materials to avoid : Strong acids

Strong bases

Strong oxidizing agents

## 10.6 Hazardous decomposition products

Hazardous decomposition : carbon dioxide products : carbon monoxide

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# **SECTION 11: Toxicological information**

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

#### **Acute toxicity**

## **Components:**

#### tetrahydro-4-methylphthalicanhydride:

Acute oral toxicity : LD50 (Rat, male and female): > 2 000 mg/kg

Method: OECD Test Guideline 401

Acute dermal toxicity : LD50 (Rat, male and female): > 2 000 mg/kg

Method: OECD Test Guideline 402

# 1,2,3,6-tetrahydro-3-methylphthalic anhydride:

Acute oral toxicity : (Rat, male and female): > 2 000 mg/kg

Method: OECD Test Guideline 401

Acute dermal toxicity : (Rat, male and female): > 2 000 mg/kg

Method: OECD Test Guideline 402

## hexahydro-4-methylphthalic anhydride:

Acute oral toxicity : LD50 Oral (Rat, female): > 2 000 mg/kg

Method: OECD Test Guideline 423

Assessment: The substance or mixture has no acute oral

toxicity

Acute dermal toxicity : LD50 Dermal (Rat, male and female): > 2 000 mg/kg

Method: OECD Test Guideline 402

Assessment: The substance or mixture has no acute dermal

toxicity

#### 1,2,3,6-tetrahydrophthalic anhydride:

Acute oral toxicity : LD50 Oral (Rat, male and female): ca. 3 200 mg/kg

Method: OECD Test Guideline 401

Assessment: The substance or mixture has no acute oral

toxicity

Acute dermal toxicity : LD50 Dermal (Rat, male and female): > 2 000 mg/kg

Method: OECD Test Guideline 402

Assessment: The substance or mixture has no acute dermal

toxicity

#### Skin corrosion/irritation

#### **Components:**

#### tetrahydro-4-methylphthalicanhydride:

Species : Rabbit Exposure time : 24 h

Method : Other guidelines
Result : No skin irritation

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# 1,2,3,6-tetrahydro-3-methylphthalic anhydride:

Species : Rabbit Exposure time : 24 h

Method : Other guidelines
Result : No skin irritation

# hexahydro-4-methylphthalic anhydride:

Species : Rabbit Exposure time : 24 h

Assessment : No skin irritation
Method : Other guidelines
Result : Mild eye irritant

# 1,2,3,6-tetrahydrophthalic anhydride:

Species : Rabbit

Method : OECD Test Guideline 404

Result : No skin irritation

# Serious eye damage/eye irritation

# **Components:**

# tetrahydro-4-methylphthalicanhydride:

Species : Rabbit

Method : OECD Test Guideline 405
Result : Risk of serious damage to eyes.

# 1,2,3,6-tetrahydro-3-methylphthalic anhydride:

Species : Rabbit

Result : Irreversible effects on the eye

# hexahydro-4-methylphthalic anhydride:

Result : Risk of serious damage to eyes.

# 1,2,3,6-tetrahydrophthalic anhydride:

Species : Rabbit

Method : OECD Test Guideline 405
Result : Risk of serious damage to eyes.

## Respiratory or skin sensitisation

#### Components:

# tetrahydro-4-methylphthalicanhydride:

Result : May cause sensitisation by inhalation.

Result : May cause sensitisation by skin contact.

#### 1,2,3,6-tetrahydro-3-methylphthalic anhydride:

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Exposure routes : Respiratory Tract

Species : Humans

Result : May cause sensitisation by inhalation.

Result : May cause sensitisation by skin contact.

hexahydro-4-methylphthalic anhydride:

Assessment : May cause sensitisation by skin contact.

Assessment : May cause sensitisation by inhalation.

1,2,3,6-tetrahydrophthalic anhydride:

Species : Guinea pig

Method : OECD Test Guideline 406

Result : May cause sensitisation by skin contact.

Result : May cause sensitisation by inhalation.

Germ cell mutagenicity

**Components:** 

tetrahydro-4-methylphthalicanhydride:

Genotoxicity in vitro : Test Type: gene mutation test

Test system: mouse lymphoma cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: negative

Test Type: Chromosome aberration test in vitro Test system: Chinese hamster fibroblasts

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 473

Result: negative

Test Type: Ames test

Test system: Salmonella tryphimurium and E. coli

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

1,2,3,6-tetrahydro-3-methylphthalic anhydride:

Genotoxicity in vitro : Test Type: Ames test

Test system: Salmonella tryphimurium and E. coli

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

Test Type: Chromosome aberration test in vitro Test system: Chinese hamster fibroblasts

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 473

Result: negative

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Test Type: gene mutation test Test system: mouse lymphoma cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: negative

# hexahydro-4-methylphthalic anhydride:

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro

Test system: Human lymphocytes

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 473

Result: negative

Test Type: Ames test

Test system: Salmonella tryphimurium and E. coli

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Test system: mouse lymphoma cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: negative

#### 1,2,3,6-tetrahydrophthalic anhydride:

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro

Test system: Human lymphocytes

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 473

Result: negative

Test Type: gene mutation test Test system: mouse lymphoma cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: negative

Test Type: Ames test

Test system: Salmonella tryphimurium and E. coli

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

## Reproductive toxicity

# Components:

# tetrahydro-4-methylphthalicanhydride:

Effects on fertility : Test Type: Combined Repeated Dose Toxicity Study with the

Reproduction / Developmental Toxicity Screening Test

Species: Rat, male and female

Application Route: Oral

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Dose: 0, 30, 100 and 300 mg/kg

General Toxicity - Parent: NOAEL: > 300 mg/kg body weight General Toxicity F1: NOAEL: > 300 mg/kg body weight

Method: OECD Test Guideline 422

# 1,2,3,6-tetrahydro-3-methylphthalic anhydride:

Effects on fertility : Test Type: Combined Repeated Dose Toxicity Study with the

Reproduction / Developmental Toxicity Screening Test

Species: Rat, male and female

**Application Route: Oral** 

Dose: 0, 30, 10 and 300 milligram per kilogram

Frequency of Treatment: 1 daily

General Toxicity - Parent: NOAEL: 300 mg/kg body weight General Toxicity F1: NOAEL: 300 mg/kg body weight

Method: OECD Test Guideline 422

Effects on foetal development

s on foetal : Test Type: reproductive and developmental toxicity study

Species: Rat, male and female

Application Route: Oral

Dose: 0, 30, 100 and 300 milligram per kilogram

Duration of Single Treatment: 38 - 49 d

General Toxicity Maternal: NOAEL: 100 mg/kg body weight Developmental Toxicity: NOAEL: > 300 mg/kg body weight

Method: OECD Test Guideline 422

## hexahydro-4-methylphthalic anhydride:

Effects on fertility : Test Type: Combined Repeated Dose Toxicity Study with the

Reproduction / Developmental Toxicity Screening Test

Species: Rat, male and female

Application Route: Oral

General Toxicity - Parent: NOAEL: > 300 mg/kg body weight General Toxicity F1: NOAEL: > 300 mg/kg body weight

Method: OECD Test Guideline 422

Effects on foetal

development

: Species: Rat

Application Route: Oral

General Toxicity Maternal: NOAEL: > 140 mg/kg body weight Embryo-foetal toxicity: NOAEL: > 140 mg/kg body weight

Method: OECD Test Guideline 414

# 1,2,3,6-tetrahydrophthalic anhydride:

Effects on fertility : Species: Rat, male and female

Application Route: Oral

General Toxicity - Parent: NOAEL: 250 mg/kg body weight

Method: OECD Test Guideline 421

#### Repeated dose toxicity

#### Components:

#### tetrahydro-4-methylphthalicanhydride:

Species : Rat, male and female

NOAEL : 100 mg/kg

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Application Route : Oral Exposure time : 49 days Number of exposures : daily

Dose : 0, 30, 100 and 300mg/kg/day

Control Group : yes

Method : OECD Test Guideline 422

# 1,2,3,6-tetrahydro-3-methylphthalic anhydride:

Species : Rat, male and female NOAEL : 100 mg/kg bw/day

Application Route : Oral Exposure time : 38 - 49 days

Number of exposures : Daily

Dose : 0, 30, 100 and 300mg/kg bw

Control Group : yes

Method : OECD Test Guideline 422

# hexahydro-4-methylphthalic anhydride:

Species : Rat, male and female

NOEL : 50 mg/kg NOAEL : 450 mg/kg Application Route : Oral

Method : OECD Test Guideline 407

Target Organs : Stomach

## 1,2,3,6-tetrahydrophthalic anhydride:

Species : Rat, male and female

NOAEL : 600 mg/kg Application Route : oral (gavage)

Method : Regulation (EC) No. 440/2008, Annex, B.7

Species : Rat, male and female

NOAEL : 100 mg/kg Application Route : oral (gavage)

Method : Regulation (EC) No. 440/2008, Annex, B.7

## 11.2 Information on other hazards

# **Endocrine disrupting properties**

#### **Product:**

Assessment : 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

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# **SECTION 12: Ecological information**

## 12.1 Toxicity

#### **Components:**

#### tetrahydro-4-methylphthalicanhydride:

Toxicity to fish : LC50 (Oryzias latipes (Japanese medaka)): > 100 mg/l

Exposure time: 96 h

Test Type: flow-through test Method: OECD Test Guideline 203

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 130 mg/l

Exposure time: 48 h Test Type: static test

Method: OECD Test Guideline 202

Toxicity to algae/aquatic

plants

EC50 (Pseudokirchneriella subcapitata (algae)): 64 mg/l

Exposure time: 72 h Test Type: static test

Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (algae)): 32 mg/l

Exposure time: 72 h Test Type: static test

Method: OECD Test Guideline 201

EC50 (activated sludge): 69,87 mg/l Toxicity to microorganisms

Exposure time: 3 h

Test Type: flow-through test Method: OECD Test Guideline 209

Toxicity to fish (Chronic

toxicity)

NOEC: 100 mg/l Exposure time: 14 d

Species: Oryzias latipes (Japanese medaka)

Test Type: flow-through test Method: OECD Test Guideline 204

Toxicity to daphnia and other :

aquatic invertebrates

(Chronic toxicity)

NOEC: 20 mg/l Exposure time: 21 d

Species: Daphnia magna (Water flea)

Test Type: semi-static test

Method: OECD Test Guideline 211

## 1,2,3,6-tetrahydro-3-methylphthalic anhydride:

Toxicity to fish LC50 (Oryzias latipes (Japanese medaka)): > 100 mg/l

Exposure time: 96 h Test Type: flow-through test Method: OECD Test Guideline 203

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 130 mg/l

Exposure time: 48 h Test Type: static test

Method: OECD Test Guideline 202

according to Regulation (EC) No. 1907/2006



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Toxicity to algae/aquatic

plants

EC50 (Pseudokirchneriella subcapitata (algae)): 75 mg/l

Exposure time: 72 h
Test Type: static test

Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (algae)): 32 mg/l

Exposure time: 72 h Test Type: static test

Method: OECD Test Guideline 201

Toxicity to microorganisms : EC50 (activated sludge): 69,87 mg/l

Exposure time: 3 h

Test Type: flow-through test Method: OECD Test Guideline 209

Toxicity to fish (Chronic

toxicity)

NOEC: 100 mg/l Exposure time: 14 d

Species: Oryzias latipes (Japanese medaka)

Test Type: flow-through test Method: OECD Test Guideline 204

Toxicity to daphnia and other :

aquatic invertebrates (Chronic toxicity)

NOEC: 20 mg/l Exposure time: 21 d

Species: Daphnia magna (Water flea)

Test Type: semi-static test

Method: OECD Test Guideline 211

## hexahydro-4-methylphthalic anhydride:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l

Exposure time: 96 h Test Type: static test

Method: OECD Test Guideline 203

Toxicity to daphnia and other :

aquatic invertebrates

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

Exposure time: 48 h Test Type: static test

Method: OECD Test Guideline 202

Toxicity to algae/aquatic

plants

: EC50 (Pseudokirchneriella subcapitata (green algae)): 135

mg/l

Exposure time: 72 h Test Type: static test

Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (algae)): 32 mg/l

Exposure time: 72 h Test Type: static test

Method: OECD Test Guideline 201

Toxicity to microorganisms : EC50 (activated sludge): 218,8 mg/l

Exposure time: 3 h
Test Type: static test

Method: OECD Test Guideline 209

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1,2,3,6-tetrahydrophthalic anhydride:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l

Method: OECD Test Guideline 203

Toxicity to daphnia and other :

aquatic invertebrates

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

Exposure time: 48 h

Test Type: Immobilization

Method: OECD Test Guideline 202

Toxicity to algae/aquatic

plants

EC50 (Scenedesmus capricornutum (fresh water algae)): 65,3

mg/l

Exposure time: 72 h

Test Type: Growth inhibition Method: OECD Test Guideline 201

NOEC (Scenedesmus capricornutum (fresh water algae)): 50

mg/l

Exposure time: 72 h

Test Type: Growth inhibition Method: OECD Test Guideline 201

## 12.2 Persistence and degradability

#### Components:

# tetrahydro-4-methylphthalicanhydride:

Biodegradability : Test Type: aerobic

Inoculum: activated sludge Concentration: 100 mg/l

Result: Not readily biodegradable.

Biodegradation: 0 %

Related to: Dissolved organic carbon (DOC)

Exposure time: 28 d

Method: OECD Test Guideline 301C

Stability in water : Degradation half life (DT50): 4,3 min (5 °C)

pH: 7

Method: OECD Test Guideline 111

Degradation half life (DT50): 3,2 min (20 °C)

pH: 7

Method: OECD Test Guideline 111

Degradation half life (DT50): 2,9 min (25 °C)

pH: 7

Method: OECD Test Guideline 111

## 1,2,3,6-tetrahydro-3-methylphthalic anhydride:

Biodegradability : Inoculum: activated sludge

Concentration: 100 mg/l

Result: Not readily biodegradable.

Biodegradation: 0 % Exposure time: 28 d

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Method: OECD Test Guideline 301C

Stability in water : Degradation half life (DT50): 4,3 min (5 °C)

pH: 7

Method: OECD Test Guideline 111

Degradation half life (DT50): 3,2 min (20 °C)

pH: 7

Method: OECD Test Guideline 111

Degradation half life (DT50): 2,9 min (25 °C)

pH: 7

Method: OECD Test Guideline 111

#### hexahydro-4-methylphthalic anhydride:

Biodegradability : Inoculum: activated sludge

Concentration: 40 mg/l

Result: Not readily biodegradable.

Biodegradation: 2 % Exposure time: 28 d

Method: OECD Test Guideline 301F

## 1,2,3,6-tetrahydrophthalic anhydride:

Biodegradability : Concentration: 11,5 mg/l

Result: Biodegradable, but failing 10-d window

Biodegradation: 99 %

Related to: Dissolved organic carbon (DOC)

Exposure time: 28 d

Kinetic: 7 d: 2 % 14 d: 17 % 21 d: 58 % 27 d: 98 % 28 d: 99 %

Method: Regulation (EC) No. 440/2008, Annex, C.4-A

Stability in water : Degradation half life (DT50): 6,92 min (20 °C)

pH: 7

Method: OECD Test Guideline 111

Degradation half life (DT50): 2,17 min (30 °C)

pH: 7

Method: OECD Test Guideline 111

Degradation half life (DT50): 1,05 min (50 °C)

pH: 7

Method: OECD Test Guideline 111

# 12.3 Bioaccumulative potential

#### Components:

# tetrahydro-4-methylphthalicanhydride:

Partition coefficient: n- : log Pow: 1,88 (40 °C)

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octanol/water pH: 5,9

Method: OECD Test Guideline 117

1,2,3,6-tetrahydro-3-methylphthalic anhydride:

Bioaccumulation : Bioconcentration factor (BCF): 3,16

Partition coefficient: n- : log Pow: 1,75 (40 °C)

octanol/water pH: 5,3

Method: OECD Test Guideline 117

hexahydro-4-methylphthalic anhydride:

Bioaccumulation : Bioconcentration factor (BCF): 3,16

Partition coefficient: n- : log Pow: 0,11 (40 °C)

octanol/water pH: 3,3

Method: OECD Test Guideline 117

1,2,3,6-tetrahydrophthalic anhydride:

Bioaccumulation : Bioconcentration factor (BCF): 3,30

Partition coefficient: n- : log Pow: 1,29 (40 °C)

octanol/water pH: 5,9

Method: OECD Test Guideline 117

# 12.4 Mobility in soil

## **Components:**

# 1,2,3,6-tetrahydro-3-methylphthalic anhydride:

Mobility : Medium: Air

Content: 0,19 %

Method: Calculation, Mackay Level III Fugacity Model

Distribution among : Koc: 10 ml/g, log Koc: 1

environmental compartments Method: QSAR

hexahydro-4-methylphthalic anhydride:

Mobility : Medium: Air

Content: 0 %

Method: Calculation, Mackay Level III Fugacity Model

Medium: Water Content: 19,9 %

Method: Calculation, Mackay Level III Fugacity Model

Medium: Soil Content: 80 %

Method: Calculation, Mackay Level III Fugacity Model

: Medium: Sediment Content: 0,12 %

Method: Calculation, Mackay Level III Fugacity Model

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Distribution among : Koc: 130 ml/g, log Koc: 2,113

environmental compartments Method: QSAR

# 1,2,3,6-tetrahydrophthalic anhydride:

Distribution among : OECD Test Guideline 121

environmental compartments Medium: Soil

log Koc: 1,70

Method: OECD Test Guideline 121

## 12.5 Results of PBT and vPvB assessment

#### **Product:**

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

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

#### 12.7 Other adverse effects

#### **Product:**

Additional ecological

information

An environmental hazard cannot be excluded in the event of

unprofessional handling or disposal.

Harmful to aquatic life.

#### **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

chemical or used container.

Send to a licensed waste management company.

Dispose of as hazardous waste in compliance with local and

national regulations.

Dispose of contents/ container to an approved waste disposal

plant.

Contaminated packaging : Empty remaining contents.

Dispose of as unused product.

Do not re-use empty containers.

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# **SECTION 14: Transport information**

#### 14.1 UN number or ID number

Not regulated as dangerous goods

#### 14.2 UN proper shipping name

Not regulated as dangerous goods

# 14.3 Transport hazard class(es)

Not regulated as dangerous goods

# 14.4 Packing group

Not regulated as dangerous goods

#### 14.5 Environmental hazards

Not regulated as dangerous goods

## 14.6 Special precautions for user

Remarks : Not classified as dangerous in the meaning of transport

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 - List of substances subject to authorisation : Not applicable

(Annex XIV)

REACH - Candidate List of Substances of Very High

Concern for Authorisation (Article 59).

: hexahydro-4-methylphthalic

anhydride

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

Not applicable

Occupational Illnesses (R-

461-3, France)

: Not applicable

#### Other regulations:

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:

DSL : This product contains one or several components listed in the

Canadian NDSL.

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

according to Regulation (EC) No. 1907/2006



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

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

KECI : Not in compliance with the inventory

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

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

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

TSCA : All substances listed as active on the TSCA inventory

#### **Inventories**

AICS (Australia), AIIC (Australia), DSL (Canada), IECSC (China), ENCS (Japan), KECI (Korea), NZIOC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (United States of America (USA))

#### 15.2 Chemical safety assessment

Chemical Safety Assessments for all substances in this product are either Complete or Not applicable.

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

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

H317 : May cause an allergic skin reaction.

H318 : Causes serious eye damage.

H334 : May cause allergy or asthma symptoms or breathing

difficulties if inhaled.

H412 : Harmful to aquatic life with long lasting effects.

#### Full text of other abbreviations

Aquatic Chronic : Chronic aquatic toxicity
Eye Dam. : Serious eye damage
Resp. Sens. : Respiratory sensitisation
Skin Sens. : Skin sensitisation

#### **Further information**

Classification of the mixture: Classification procedure:

Eye Dam. 1 H318 Calculation method Resp. Sens. 1 H334 Calculation method

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Skin Sens. 1 H317 Calculation method

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