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EVONIK

1. Identification of the substance/mixture and of the company/undertaking

VA-No.

1.1. Product identifier

Trade name : TEGOPREN 6924

Chemical Name : Substantive organomodified siloxane

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

Relevant applications

identified

: Industrial Use

Applications which are not

advised

: None known.

1.3. Details of the supplier of the safety data sheet

Company : Evonik Nutrition & Care GmbH

Goldschmidtstr. 100

D-45127 Essen

Telephone : +49 (0)201 173-01 Telefax : +49 (0)201 173-3000

E-mail : products a fety-cs @evonik.com

1.4. Emergency telephone number

Emergency information : +49 (0)201 173-01 (Phone)

+49 (0)201 173-1854 (Fax)

2. Hazards identification

2.1. Emergency Overview

Colour: yellowish, Odour: characteristic, Keep away from sources of ignition - No smoking. No physical and chemical hazards known. Possible risk of harm to the unborn child. Dangerous for the environment No information is on file to date regarding acute and/or delayed post-exposure symptoms and effects. Treat symptomatically.

2.2. Classification of the substance or mixture

Classification according to GHS Regulation.

Reproductive toxicity

Acute aquatic toxicity

Category 2

Category 3

Chronic aquatic toxicity

Category 3

H402

Chapter 3

Category 3

H412

2.3. Label elements

Constituent decisive for hazardous-substance labeling

: Siloxanes and silicones, dimethyl, 3-{3-[(3-Cocoamidopropyl) -dimethylammonia]-2-hydroxy-propoxy}propyl group terminated, acetates (; CAS-No.: 134737-05-6

Octamethylcyclotetrasiloxane; CAS-No.: 556-67-2

Symbol(s) :



Signal word : Warning

hazard statement : H361 - Suspected of damaging fertility or the unborn child.

H402 - Hamful to aquatic life.

H412 - Hamful to aquatic life with long lasting effects.

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Precautionary Statement : P201 - Obtain special instructions before use.

(Prevention) P202 - Do not handle until all safety precautions have been read and understood.

P273 - Avoid release to the environment.

P281 - Use personal protective equipment as required.

 $Precautionary\,Statement$

(Response)

: P308 + P313 - IF exposed or concerned: Get medical advice/ attention.

Precautionary Statement

(Storage)

: P405 - Store locked up.

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Precautionary Statement

(Disposal)

: P501 - Dispose of contents/container in accordance with local regulation.

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

Symptoms : No information is on file to date regarding acute and/or delayed post-exposure

symptoms and effects.

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

Treat symptomatically.

2.6. Physical and chemical hazards

No physical and chemical hazards known. Keep away from sources of ignition - No smoking.

2.7. Health hazards

Possible risk of harm to the unborn child.

2.8. Environmental hazards

Dangerous for the environment

2.9. Other hazards

None known

3. Composition/information on ingredients

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3.1. Substances

-

3.2. Mixtures

Information on ingredients / Hazardous components according to GHS.

Chemical Name	CAS-No.	Concentration	Classification
Siloxanes and silicones, dimethyl, 3-{3-[(3- Cocoamidopropyl) - dimethylammonia]-2- hydroxy-propoxy}propyl group terminated, acetates (134737-05-6	>= 80 % - < 100 %	H402, 3, Acute aquatic toxicity H412, 3, Chronic aquatic toxicity
Octamethylcyclotetrasilo xane	556-67-2	>= 0.1 % - < 1 %	H226, 3, Flammable liquids H333, 5, Acute toxicity, Inhalation H361, 2, Reproductive toxicity H413, 4, Chronic aquatic toxicity

Texts of H phrases, see in Chapter 16

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4. First aid measures

4.1. Description of first aid measures

General advice : Remove soiled or soaked clothing immediately

Inhalation : Ensure supply of fresh air.

In the event of symptoms seek medical advice.

Skin contact : In case of contact with skin wash off with soap and water.

Consult a doctor if skin irritation persists.

Eye contact : In case of contact with eyes rinse thoroughly with plenty of water. If symptoms

persist, seek medical advice.

Ingestion : Thoroughly clean the mouth with water

Call for medical advice immediately; show the container or the label.

4.2. Most important symptoms and health effects.

Symptoms : No information is on file to date regarding acute and/or delayed post-exposure

symptoms and effects.

4.3. Advice for protecting first-aid responders

no data available

4.4. Special notes to physicians.

Treat symptomatically.

5. Fire-fighting measures

5.1. Extinguishing media

Suitable extinguishing media : foam, carbon dioxide, dry powder, water spray.

Unsuitable extinguishing

media

: not applicable

5.2. Special hazards arising from the substance or mixture

In the event of fire the following can be released:

- carbon dioxide, carbon monoxide
- Silicon dioxide
- Nitrogen oxides (NOx)

Under certain conditions of combustion traces of other toxic substances cannot be excluded

5.3. Fire precautions and protective measures

Do not inhale explosion and/or combustion gases

Use self-contained breathing apparatus and wear protective suit

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment.

6.2. Environmental precautions

Do not allow to enter drains or waterways Do not discharge into the subsoil/soil.

6.3. Methods and material for containment and cleaning up

Take up with absorbent material (eg sand, kieselguhr, universal binder) Dispose of absorbed material in accordance with the regulations.

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6.4. Precautionary measures to prevent the occurrence of secondary disasters.

Do not allow to enter soil, waterways or waste water canal.

Shut off ignition sources; no flares, smoking or flames in hazard area. Do not allow to enter soil, waterways or waste water canal.

Shut off ignition sources; no flares, smoking or flames in hazard area.

6.5. Reference to other sections

For further information on exposure monitoring and disposal see sections 8 and 13.

7. Handling and storage

7.1. Precautions for safe handling

Advice on safe handling : No special measures necessary if stored and handled as prescribed.

Handling : no data available

Hygiene measures : Wash hands before breaks and after work.

General protective measures : Wash hands before breaks and immediately after handling the product.

Avoid contact with eyes.

Wear suitable protective equipment.

7.2. Conditions for safe storage, including any incompatibilities

Prevention of fire and explosion

Information : Keep away from sources of ignition - no smoking

Cool endangered containers by water spray

Storage

Information

Further information on storage

conditions

: Keep container tightly closed

8. Exposure controls/personal protection

8.1. Occupational Exposure Limits

Contains no substances with occupational exposure limit values (China).

8.2. Biological occupational exposure limits

Contains no substance with biological exposure limit values (China).

8.3. Monitoring methods

no data available

8.4. Engineering controls

no data available

8.5. Personal protective equipment

Appropriate engineering

controls

: no data available

Eye protection : goggles with side pieces

Hand protection : Examples of suitable gloves are those made by the company Kächele-Cama

Latex GmbH, Am Kreuzacker 9, D-36124 Eichenzell, e-mail vertrieb@kcl.de, with subsequent specification (test according to EN374); specific workplace conditions

must be separately taken into account.

These recommendations apply only to the product mentioned in the material data

safety sheet that we supply and the purpose that we indicate.

Glove material: gloves made of natural latex

Break through time: > 480 min Glove thickness: 0.5 mm

Glove material: gloves made of natural latex

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Break through time: > 480 min

Glove thickness: 1 mm

Glove material: gloves made of chloroprene (CR, e.g. Neoprene)

Break through time: > 480 min Glove thickness: 0.6 mm

Glove material: gloves made of nitril (NBR)

Break through time: > 480 min Glove thickness: 0.4 mm

Glove material: gloves made of butyl (IIR)

Break through time: > 480 min Glove thickness: 0.3 mm

Body Protection : light protective clothing

Respiratory protection : Breathing apparatus in the event of aerosol or mist formation.

Short term: filter apparatus, combination filter A-P2

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : liquid

Form : liquid
Colour : yellowish
Odour : characteristic
Odour Threshold : not measured

pH : 6.7 - 8.3

100 g/l

Method: DIN 51369 Remarks: water

Melting point : not measured

Boiling point : not measured

Flash point : > 100 °C

Method: DIN EN 22719 (DIN 51758)

Evaporation rate : not measured

Flammability : no data available

Upper Explosion/Ignition Limit : not measured

Lower explosion limit : not measured

Vapour pressure : not measured

Relative vapour density : not measured

Relative density : no data available

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Solubility(ies) : not measured

Water solubility : insoluble

Partition coefficient: n-

octanol/water

: not measured

Autoignition temperature : not measured

Thermal decomposition : not measured

Viscosity, kinematic : no data available

Viscosity, dynamic : 7,000 - 15,000 mPa.s

(25 °C)

Explosive properties : not measured

Oxidising properties : not measured

Density : 0.98 - 1.01 g/cm3

(25 °C)

Method: DIN 51757

9.2. Other information

Metal corrosion : not measured Ignition temperature : not measured

10. Stability and reactivity

10.1. Chemical stability

The product is stable under normal conditions.

10.2. Possibility of hazardous reactions

No hazardous reactions with proper storage and handling.

10.3. Conditions to avoid

Unknown

10.4. Incompatible materials

Unknown

10.5. Hazardous decomposition products

None with proper storage and handling.

11. Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : LD50

Species: Rat

Dose: $> 5,000 \,\text{mg/kg}$

Acute to xicity (inhalation) : no data available
Acute to xicity (dermal) : no data available

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Irritation/corrosion of the skin

Species: rabbit

Result: non-irritant

Serious eye damage/ eye

irritation

: Species: rabbit

Result: slight irritant effect - does not require labelling

Respiratory/skin sensitization : Result: non-sensitizing

Test substance: (analogy)

Repeated dose toxicity

CMR assessment

: no data available

Carcinogenicity : no data available

Mutagenicity Not mutagenic in Ames Test

The data are derived from the evaluations or test results achieved with similar

products (conclusion by analogy).

Teratogenicity : no data available Toxicity to reproduction no data available

Specific Target Organ Toxicity - Single exposure : no data available

Specific Target Organ

Toxicity - Repeated exposure

: no data available

Aspiration hazard : No aspiration toxicity classification

Other information : Proper use provided, no adverse health effects have been observed or have been

come to our knowledge.

- Contains Octamethylcyclotetrasiloxane -

Rats that have had octamethylcyclotetrasiloxane administered repeatedly by inhalative or oral methods showed an increase of liver weights. No other symptoms to the liver had been observed. Further studies on rabbits and guinea pigs did not show effects to the liver.

In range-finding studies Octamethylcyclotetrasiloxane affected the reproduction of laboratory animals exposed to high vapour concentrations of 500 and 700 ppm, but

not in lower concentrations.

Effects on maternal animals (systemic toxicity) were already seen with 300 ppm and higher concentrations. The significance of these findings to humans is doubtful. In developmental toxicity studies in which rats and rabbits were exposed to Octamethylcyclotetrasiloxane by vapour inhalation of high concentrations up to 700 ppm and 500 ppm respectively, no teratogenic effects (no malformations) were

observed.

12. **Ecological information**

Ecotoxicology Assessment

Acute aquatic toxicity : no data available

Chronic aquatic toxicity : no data available

12.1. Toxicity

Aquatoxicity, fish Species: Brachydanio rerio

Exposure duration: 96 h LC50: 30.8 mg/l Method: OECD 203 Test substance: (analogy)

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Aquatoxicity, invertebrates : Species: Daphnia magna

Exposure duration: 48 h EC50: > 200 mg/l Method: OECD 202 Test substance: (analogy)

Aquatoxicity, algae / aquatic

plants

: static test

Species: Pseudokirchneriella subcapitata

growth rate

Exposure duration: 72 h ErC50: 7.2 mg/l Method: OECD TG 201

GLP: yes

Test substance: Main component(s)

Remarks: Own test result.

river water static test

Species: Pseudokirchneriella subcapitata (green algae)

Exposure duration: 72 h

ErL10 (Estimated Loading rate): 2.2 mg/l

Method: OECD TG 201

GLP: yes

Test substance: Main component(s)

Remarks: Own test result.

river water

Toxicity in microorganisms : no data available

chronic toxicity in fish : no data available

Chronic toxicity in aquatic

Invertebrates

: no data available

Toxicity in organisms which

live in the soil

: no data available

Toxicity in terrestrial plants : no data available

Toxicity to Above-Ground

Organisms

: no data available

12.2. Persistence and degradability

Photodegradation : no data available

Biological degradability : no data available

Physico-chemical

removability

: no data available

Biochemical Oxygen Demand : no data available

(BOD)

Chemical Oxygen Demand

(COD)

: no data available

relation of BOD/COD : no data available

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Dissolved organic carbon

(DOC)

: no data available

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Adsorbed organic bound

halogens (AOX)

: no data available

Distribution among

environmental compartments

: no data available

12.3. Bioaccumulative potential

Bioaccumulation : no data available

12.4. Mobility in soil

: no data available Environmental distribution

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment : no data available

12.6. Other adverse effects

General Information : The product is considered to be a water pollutant (German law).

Do not allow to enter soil, waterways or waste water canal.

Disposal considerations 13.

13.1. Waste treatment methods

Product : In accordance with local authority regulations, take to special waste incineration

plant

Contaminated packaging If empty contaminated containers are recycled or disposed of, the receiver must be

informed about possible hazards.

Transport information

Not dangerous according to transport regulations.

14.1. UN number: 14.2. UN proper shipping name: 14.3. Transport hazard class(es): 14.4. Packing group: 14.5. Environmental hazards: 14.6. Special precautions for user:

Regulatory information 15.

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture **Notification status**

Nο

China (IECSC) : listed/registered or exempted

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Other regulations : none

16. Other information

Relevant H phrases from chapter 3

H226 : Flammable liquid and vapour. H333 : May be harmful if inhaled.

H361 : Suspected of damaging fertility or the unborn child.

H402 : Hamful to aquatic life.

H412 : Harmful to aquatic life with long lasting effects.
H413 : May cause long lasting harmful effects to aquatic life.

List of references

Revision date : 03/13/2018

Made by : S-ESHQ, Evonik China Approved by : Evonik Industries AG

Reference : MEP: Inventory of Existing Chemical Substance in China (IECSC)

SAWS: Catalogue of Hazardous Chemicals Differentiation of great danger source (GB18218)

MEP: Inventory of Dangerous Waste

MOH: Inventory of highly hazardous substance

State department: Regulation on management of precursor of narcotic chemicals Occupational Exposure Limit for Hazardous Agents in the Workplace GBZ 2

GB12268 List of dangerous goods

MEP, Customs: Catalogue of Toxic Chemicals Prohibited or Strictly Controlled to

Import or Export

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Legend

ADR European Agreement concerning the International Carriage of Dangerous Goods by Road ADN European Agreement concerning the International Carriage of Dangerous Goods by Inland

Waterways

ADNR European agreement concerning the international carriage of dangerous goods by inland waterways

(ADN)

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ASTM American Society for Testing and Materials

ATP Adaptation to Technical Progress

BCF Bioconcentration factor

BetrSichV German Ordinance on Industrial Safety and Health

c.c. closed cup

CAS Chemical Abstract Services

CESIO European Committee of Organic Surfactants and their Intermediates

Chem G German Chemicals Act

CMR carcinogenic-mutagenic-toxic for reproduction

DIN German Institute for Standardization
DM EL Derived minimum effect level

DNEL Derived minimum enectievel

EINECS European Inventory of Existing Commercial Chemical Substances

EC50 half maximal effective concentration

GefStoffV German Ordinance on Hazardous Substances

GGVSEB German ordinance for road, rail and inland waterway transportation of dangerous goods

GGVSee German ordinance for sea transportation of dangerous goods

GLP Good Laboratory Practice
GMO Genetic Modified Organism

IATA International Air Transport Association
ICAO International Civil Aviation Organization
IMDG International Maritime Dangerous Goods
ISO International Organization For Standardization

LOAEL Lowest observed adverse effect level

LOEL Lowest observed effect level
NOAEL No observed adverse effect level
NOEC no observed effect concentration

NOEL no observed effect level

o. c. open cup

OECD Organisation for Economic Cooperation and Development

OEL Occupational Exposure Limit
PBT Persistent, bioaccumulative, toxic
PEC Predicted effect concentration
PNEC Predicted no effect concentration

REACH REACH registration

RID Convention concerning International Carriage by Rail

STOT Specific Target Organ Toxicity
SVHC Substances of Very High Concern

TA Technical Instructions

TPR Third Party Representative (Art. 4)
TRGS Technical Rules for Hazardous Substances
VCI German chemical industry association
vPvB very persistent, very bioaccumulative

VOC volatile organic compounds

VwVwS German Administrative Regulation on the Classification of Substances Hazardous to Waters into

Water Hazard Classes

WGK Water Hazard Class
WHO World Health Organization