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### **OKS 2501**

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#### 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product name : OKS 2501

Manufacturer or supplier's details

Company name of supplier OKS Spezialschmierstoffe GmbH

Ganghoferstr. 47

D-82216 Maisach-Gernlinden Tel.: +49 8142 3051 500 Fax.: +49 8142 3051 599 info@oks-germany.com

E-mail address of person

mcm@oks-germany.com

responsible for the SDS Material Compliance Management

: +7 495 628 1687

Emergency telephone

number +49 8142 3051 517

Recommended use of the chemical and restrictions on use

Recommended use Lubricant spray

Restrictions on use Restricted to professional users.

#### 2. HAZARDS IDENTIFICATION

GHS Classification (According to GOST 32423, GOST 32424 and GOST 32425)

Aerosols Category 1

Skin irritation Category 2

Serious eye damage Category 1

Skin sensitisation Category 1

single exposure

Specific target organ toxicity - : Category 3 (Central nervous system)

Aspiration hazard Category 1

Short-term (acute) aquatic

hazard

Category 2

Long-term (chronic) aquatic

hazard

Category 2

**GHS-Labelling (According to GOST 31340)** 

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Hazard pictograms











Signal word : Danger

Hazard statements : H222 Extremely flammable aerosol.

H229 Pressurised container: May burst if heated. H304 May be fatal if swallowed and enters airways.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H336 May cause drowsiness or dizziness.

H411 Toxic to aquatic life with long lasting effects.

Precautionary statements : Prevention:

P210 Keep away from heat, hot surfaces, sparks, open flames

and other ignition sources. No smoking.

P211 Do not spray on an open flame or other ignition source.

P251 Do not pierce or burn, even after use. P273 Avoid release to the environment.

P280 Wear protective gloves/ eye protection/ face protection.

Response:

P301 + P310 IF SWALLOWED: Immediately call a POISON

CENTER/ doctor.

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.

P331 Do NOT induce vomiting.

Storage:

P410 + P412 Protect from sunlight. Do not expose to

temperatures exceeding 50 °C/122 °F.

Other hazards which do not result in classification

None known.

#### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture : Mixture

Chemical nature : Active substance with propellant

Synthetic hydrocarbon oil

solid lubricant

Components



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Chemical name	Concentration (% w/w)	Occupational Exposure Limits		CAS-No.	EC-No.
		MAC value mg/m3 / TSEL value	Hazard Class		
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane	>= 30 - < 50	No data available			921-024-6
butane	>= 20 - < 30	MPC-TWA: 300 mg/m3 Data Source: RU OEL	4	106-97-8	203-448-7
		MPC-STEL: 900 mg/m3 Data Source: RU OEL	4		
propane	>= 10 - < 20	No data available		74-98-6	200-827-9
titanium dioxide; [in powder form containing <1 % of particles with aerodynamic diameter ≤ 10 µm]	>= 1 - < 10	MPC-TWA: 10 mg/m3 Data Source: RU OEL	f, 4	13463-67-7	236-675-5
calcium dihydroxide	>= 3 - < 10	MPC-STEL: 2 mg/m3 Data Source: RU OEL	3, +	1305-62-0	215-137-3
Amines, N-C16-C18-alkyl-(evennumbered, C18 unsaturated) propane-1,3-diaminium di[(9Z)-octadec-9-enoate]	>= 1 - < 2,5	No data available			800-362-7
Molybdenum trioxide, reaction products with bis[O,O-bis(2-ethylhexyl)] hydrogen dithiophosphate	>= 0,1 - < 0,25	No data available			947-946-9

# 4. FIRST AID MEASURES

If inhaled

Call a physician or poison control centre immediately. Remove person to fresh air. If signs/symptoms continue, get

medical attention.





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Keep patient warm and at rest.

If unconscious, place in recovery position and seek medical

advice.

Keep respiratory tract clear.

If breathing is irregular or stopped, administer artificial

respiration.

In case of skin contact : Take off all contaminated clothing immediately.

Get medical attention immediately if irritation develops and

persists.

Wash clothing before reuse.

Thoroughly clean shoes before reuse. Wash off immediately with plenty of water.

In case of eye contact : Rinse immediately with plenty of water, also under the eyelids,

for at least 10 minutes.

Get medical attention immediately.

If swallowed : Move the victim to fresh air.

Call a physician immediately. Keep respiratory tract clear. Do NOT induce vomiting. Rinse mouth with water.

Give small amounts of water to drink.

Aspiration hazard if swallowed - can enter lungs and cause

damage.

Most important symptoms and effects, both acute and

delayed

Central nervous system depression

Risk of product entering the lungs on vomiting after ingestion.

Health injuries may be delayed.

corrosive effects
Causes skin irritation.

May cause an allergic skin reaction.

Inhalation may provoke the following symptoms:

Unconsciousness

Dizziness Drowsiness Headache Nausea Tiredness

Skin contact may provoke the following symptoms:

Erythema

Allergic appearance

Aspiration may cause pulmonary oedema and pneumonitis.

Notes to physician : The first aid procedure should be established in consultation

with the doctor responsible for industrial medicine.

Treat symptomatically.

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#### 5. FIREFIGHTING MEASURES

Flammable properties

Flash point : -20 °C

Method: Abel-Pensky, closed cup

Ignition temperature : No data available

Upper explosion limit / Upper :

flammability limit

15 %(V)

Lower explosion limit / Lower :

flammability limit

0,6 %(V)

Flammability (solid, gas) : Not applicable

Suitable extinguishing media : ABC powder

Unsuitable extinguishing

media

High volume water jet

Specific hazards during

firefighting

Fire Hazard

Do not let product enter drains.

Contains gas under pressure; may explode if heated. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

Hazardous combustion

products

Carbon oxides

Nitrogen oxides (NOx) Oxides of phosphorus

Metal oxides

Further information : Standard procedure for chemical fires.

Collect contaminated fire extinguishing water separately. This

must not be discharged into drains. Cool containers/tanks with water spray.

Special protective equipment :

for firefighters

In the event of fire, wear self-contained breathing apparatus.

Use personal protective equipment.

Exposure to decomposition products may be a hazard to

health.

#### 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures Evacuate personnel to safe areas.

Ensure adequate ventilation.
Remove all sources of ignition.

Do not breathe duct/furna/gas/mist/us

Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. Refer to protective measures listed in sections 7 and 8.

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Only qualified personnel equipped with suitable protective

equipment may intervene.

Environmental precautions : Do not allow contact with soil, surface or ground water.

Prevent further leakage or spillage if safe to do so.

If the product contaminates rivers and lakes or drains inform

respective authorities.

Methods and materials for containment and cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to

local / national regulations (see section 13). Keep in suitable, closed containers for disposal.

Non-sparking tools should be used.

#### 7. HANDLING AND STORAGE

Advice on safe handling : Do not use in areas without adequate ventilation.

Do not breathe vapours or spray mist.

In case of insufficient ventilation, wear suitable respiratory

equipment.

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

Keep away from fire, sparks and heated surfaces. Persons with a history of 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.

Smoking, eating and drinking should be prohibited in the

application area.

Wash hands and face before breaks and immediately after

handling the product.

Do not get in eyes or mouth or on skin.

Do not get on skin or clothing.

Do not ingest.

Do not use sparking tools.

These safety instructions also apply to empty packaging which

may still contain product residues.

Pressurized container: protect from sunlight and do not

expose to temperatures exceeding 50 °C. Do not pierce or

burn, even after use.

Conditions for safe storage : BEWARE: Aerosol is pressurized. Keep away from direct sun

exposure and temperatures over 50 °C. Do not open by force or throw into fire even after use. Do not spray on flames or

red-hot objects.

Store in accordance with the particular national regulations.



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#### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Data Source
butane	106-97-8	MPC-TWA (vapour and/or gas)	300 mg/m3	RU OEL (2021-02-03)
	Further information: Class 4 - Low hazard			
		MPC-STEL (vapour and/or gas)	900 mg/m3	RU OEL (2021-02-03)
	Further information: Class 4 - Low hazard			
titanium dioxide; [in powder form containing <1 % of particles with aerodynamic diameter ≤ 10 μm]	13463-67-7	MPC-TWA (aerosol)	10 mg/m3	RU OEL (2021-02-03)
	Further information: aerosols of predominantly fibrogenic action, Class 4 - Low hazard			
calcium dihydroxide	1305-62-0	TWA (Respirable fraction)	1 mg/m3	2017/164/EU (2017-02-01)
		STEL (Respirable fraction)	4 mg/m3	2017/164/EU (2017-02-01)
		MPC-STEL (aerosol)	2 mg/m3	RU OEL (2021-02-03)
	Further information: Class 3 - Moderately dangerous, Substances which require special skin and eye protection			

Engineering measures

Use only in an area equipped with explosion proof exhaust

ventilation.

Handle only in a place equipped with local exhaust (or other

appropriate exhaust).

#### Personal protective equipment

Respiratory protection : Use respiratory protection unless adequate local exhaust

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

Short term only

Filter type : Filter type A-P

Hand protection

Material : butyl-rubber
Break through time : > 10 min
Protective index : Class 1

Remarks : Wear protective gloves. The break through time depends

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amongst other things on the material, the thickness and the type of glove and therefore has to be measured for each

case.

Eye protection : Tightly fitting safety goggles

Skin and body protection : Choose body protection in relation to its type, to the

concentration and amount of dangerous substances, and to

the specific work-place.

Protective measures : The type of protective equipment must be selected according

to the concentration and amount of the dangerous substance

at the specific workplace.

Hygiene measures : Wash face, hands and any exposed skin thoroughly after

handling.

#### 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : aerosol

Colour : white

Odour : solvent-like

Odour Threshold : No data available

pH : Not applicable

substance/mixture is non-soluble (in water)

Melting point/range : No data available

Boiling point/boiling range : -20 °C

(1.013 hPa)

Flash point : -20 °C

Method: Abel-Pensky, closed cup

Evaporation rate : No data available

Flammability (solid, gas) : Not applicable

Self-ignition : not auto-flammable

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Upper explosion limit / Upper

flammability limit

15 %(V)

Lower explosion limit / Lower

flammability limit

0,6 %(V)

Vapour pressure : 2.860 hPa (20 °C)

Relative vapour density : No data available

Relative density : 0,775 (20 °C)

Reference substance: Water The value is calculated

Density : 0,78 g/cm3 (20 °C)

Bulk density : No data available

Solubility(ies)

Water solubility : insoluble

Solubility in other solvents : No data available

Partition coefficient: n-

octanol/water

No data available

Auto-ignition temperature : No data available

Decomposition temperature : No data available

Viscosity

Viscosity, dynamic : No data available

Viscosity, kinematic : < 20,5 mm2/s ( 40 °C)

Explosive properties : Not explosive

Oxidizing properties : No data available

Sublimation point : No data available

Metal corrosion rate : Not corrosive to metals

#### 10. STABILITY AND REACTIVITY

Reactivity : No hazards to be specially mentioned.

Chemical stability : Stable under normal conditions.

Possibility of hazardous : No dangerous reaction known under conditions of normal use.

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reactions

Conditions to avoid : Heat, flames and sparks.

Strong sunlight for prolonged periods.

Risk of receptacle bursting.

Incompatible materials : Oxidizing agents

Hazardous decomposition

products

No decomposition if stored and applied as directed.

#### 11. TOXICOLOGICAL INFORMATION

#### **Acute toxicity**

#### **Product:**

Acute oral toxicity : Remarks: Effects due to ingestion may include:

Symptoms: Pain, Central nervous system depression,

Stomach/intestinal disorders

Acute inhalation toxicity : Acute toxicity estimate: > 10 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist Method: Calculation method

Remarks: Risk of delayed pulmonary oedema.

Effects of breathing high concentrations of vapour may

include:

Respiration of solvent vapour may cause dizziness.

Harmful by inhalation.

Irritating to respiratory system.

Symptoms: Inhalation may provoke the following symptoms:, Respiratory disorder, Dizziness, Drowsiness, Vomiting, Fatigue, Vertigo, Central nervous system depression

Acute dermal toxicity : Symptoms: Blistering, Redness, Local irritation

# **Components:**

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:

Acute oral toxicity : LD50 (Rat): > 5.840 mg/kg

Assessment: The substance or mixture has no acute oral

toxicity

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Acute inhalation toxicity : LC50 (Rat): > 25,2 mg/l

Exposure time: 4 h
Test atmosphere: vapour

Assessment: The substance or mixture has no acute

inhalation toxicity

Acute dermal toxicity : LD50 (Rat): > 2,8 g/kg

Assessment: The substance or mixture has no acute dermal

toxicity

butane:

Acute inhalation toxicity : LC50 (Rat): 658 mg/l

Exposure time: 4 h
Test atmosphere: gas

titanium dioxide; [in powder form containing <1 % of particles with aerodynamic diameter  $\leq$  10  $\mu m$  ]:

Acute oral toxicity : LD50 (Rat): > 5.000 mg/kg

Method: OECD Test Guideline 401

GLP: yes

Acute inhalation toxicity : (Rat): > 5,09 mg/l

Method: OECD Test Guideline 403

GLP: no

calcium dihydroxide:

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

Method: OECD Test Guideline 425

GLP: yes

Assessment: The substance or mixture has no acute oral

toxicity

Acute inhalation toxicity : LC50 (Rat, male and female): > 6,04 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Method: OECD Test Guideline 436

GLP: ves

Acute dermal toxicity : LD50 (Rabbit, male and female): > 2.500 mg/kg

Method: OECD Test Guideline 402

Assessment: The substance or mixture has no acute dermal

toxicity

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Amines, N-C16-C18-alkyl-(evennumbered, C18 unsaturated) propane-1,3-diaminium di[(9Z)-octadec-9-enoate]:

Acute oral toxicity : LD50 (Rat): > 5.000 mg/kg

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

Assessment: The substance or mixture has no acute dermal

toxicity

Molybdenum trioxide, reaction products with bis[O,O-bis(2-ethylhexyl)] hydrogen dithiophosphate:

Acute dermal toxicity : Symptoms: Redness, Local irritation

Skin corrosion/irritation

**Product:** 

Remarks : Causes skin burns.

Irritating to skin.

**Components:** 

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:

Species : Rabbit

Assessment : Irritating to skin.

Method : OECD Test Guideline 404

Result : Irritating to skin.

titanium dioxide; [in powder form containing <1 % of particles with aerodynamic diameter

≤ 10 µm]:

Species : Rabbit

Assessment : No skin irritation

Method : OECD Test Guideline 404

Result : No skin irritation

GLP : no

calcium dihydroxide:

Species : human skin
Assessment : Irritating to skin.

Method : OECD Test Guideline 431

Result : Irritating to skin.

GLP : yes

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Species : Rabbit

Assessment : Irritating to skin.

Method : OECD Test Guideline 404

Result : Irritating to skin.

GLP : yes

# Amines, N-C16-C18-alkyl-(evennumbered, C18 unsaturated) propane-1,3-diaminium di[(9Z)-octadec-9-enoate]:

Species : Rabbit

Assessment : Irritating to skin. Result : Irritating to skin.

# Molybdenum trioxide, reaction products with bis[O,O-bis(2-ethylhexyl)] hydrogen dithiophosphate:

Assessment : Irritating to skin. Result : Irritating to skin.

Remarks : Irritating to skin.

### Serious eye damage/eye irritation

**Product:** 

Remarks : Causes eye burns.

# **Components:**

# Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:

Species : Rabbit

Result : No eye irritation
Assessment : No eye irritation

# titanium dioxide; [in powder form containing <1 % of particles with aerodynamic diameter $\leq$ 10 µm]:

Species : Rabbit

Result : No eye irritation
Assessment : No eye irritation

Method : OECD Test Guideline 405

# calcium dihydroxide:

Species : Rabbit

Result : Risk of serious damage to eyes.

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

Rabbit

GLP : yes

# Amines, N-C16-C18-alkyl-(evennumbered, C18 unsaturated) propane-1,3-diaminium di[(9Z)-octadec-9-enoate]:

Species

Result : Irritating to eyes. Assessment : Irritating to eyes.

Method : OECD Test Guideline 405

# Molybdenum trioxide, reaction products with bis[O,O-bis(2-ethylhexyl)] hydrogen dithiophosphate:

Result : No eye irritation
Assessment : No eye irritation

#### Respiratory or skin sensitisation

**Product:** 

Remarks : This information is not available.

#### **Components:**

#### Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:

Test Type : Maximisation Test

Exposure routes : Dermal Species : Guinea pig

Assessment : Does not cause skin sensitisation.

Method : OECD Test Guideline 406

Result : Did not cause sensitisation on laboratory animals.

# titanium dioxide; [in powder form containing <1 % of particles with aerodynamic diameter $\leq$ 10 µm]:

Species : Mouse

Assessment : Does not cause skin sensitisation.

Method : OECD Test Guideline 429

Result : Does not cause skin sensitisation.

#### calcium dihydroxide:

Test Type : Local lymph node assay (LLNA)

Species : Mouse

Assessment : Does not cause skin sensitisation.

Method : OECD Test Guideline 429

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Result : Does not cause skin sensitisation.

GLP : yes

Amines, N-C16-C18-alkyl-(evennumbered, C18 unsaturated) propane-1,3-diaminium di[(9Z)-octadec-9-enoate]:

Assessment : Does not cause skin sensitisation.
Result : Does not cause skin sensitisation.

Molybdenum trioxide, reaction products with bis[O,O-bis(2-ethylhexyl)] hydrogen dithiophosphate:

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

Germ cell mutagenicity

**Product:** 

Genotoxicity in vitro : Remarks: No data available

Genotoxicity in vivo : Remarks: No data available

**Components:** 

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:

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

Test system: Rodent cell line Method: OECD Test Guideline 473

Result: negative

titanium dioxide; [in powder form containing <1 % of particles with aerodynamic diameter ≤ 10 µm]:

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Germ cell mutagenicity - Assessment Tests on bacterial or mammalian cell cultures did not show

mutagenic effects.

calcium dihydroxide:

Genotoxicity in vitro : Test Type: Ames test

Method: OECD Test Guideline 471

Result: negative GLP: yes

Test Type: Chromosome aberration test in vitro

Method: OECD Test Guideline 473

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Result: negative GLP: yes

Test Type: In vitro mammalian cell gene mutation test

Method: OECD Test Guideline 476

Result: negative

GLP: yes

Amines, N-C16-C18-alkyl-(evennumbered, C18 unsaturated) propane-1,3-diaminium di[(9Z)-octadec-9-enoate]:

Genotoxicity in vitro : Test Type: Ames test

Result: negative

Germ cell mutagenicity -

Assessment

Tests on bacterial or mammalian cell cultures did not show

mutagenic effects.

Carcinogenicity

**Product:** 

Remarks : No data available

**Components:** 

titanium dioxide; [in powder form containing <1 % of particles with aerodynamic diameter ≤ 10 μm]:

Carcinogenicity -

Assessment

: No evidence of carcinogenicity in animal studies.

calcium dihydroxide:

Carcinogenicity -

Assessment

No evidence of carcinogenicity in animal studies.

Amines, N-C16-C18-alkyl-(evennumbered, C18 unsaturated) propane-1,3-diaminium di[(9Z)-octadec-9-enoate]:

Carcinogenicity -Assessment : No evidence of carcinogenicity in animal studies.

Reproductive toxicity

**Product:** 

Effects on fertility : Remarks: No data available

Effects on foetal : Remarks: No data available

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development

#### **Components:**

titanium dioxide; [in powder form containing <1 % of particles with aerodynamic diameter ≤ 10 µm]:

Reproductive toxicity - : - Fertility -

Assessment

No toxicity to reproduction

- Teratogenicity -

No effects on or via lactation

calcium dihydroxide:

Reproductive toxicity - : - Fertility -

Assessment No toxicity to reproduction

- Teratogenicity -

No effects on or via lactation

Amines, N-C16-C18-alkyl-(evennumbered, C18 unsaturated) propane-1,3-diaminium di[(9Z)-octadec-9-enoate]:

Reproductive toxicity - : - Fertility -

Assessment No toxicity to reproduction

- Teratogenicity -

No toxicity to reproduction

STOT - single exposure

Components:

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:

Assessment : May cause drowsiness or dizziness.

titanium dioxide; [in powder form containing <1 % of particles with aerodynamic diameter ≤ 10 μm]:

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

organ toxicant, single exposure.

calcium dihydroxide:

Assessment : May cause respiratory irritation.

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Amines, N-C16-C18-alkyl-(evennumbered, C18 unsaturated) propane-1,3-diaminium di[(9Z)-octadec-9-enoate]:

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

organ toxicant, single exposure.

#### STOT - repeated exposure

# **Components:**

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:

Exposure routes : inhalation (vapour)

Assessment : No significant health effects observed in animals at

concentrations of 1 mg/l/6h/d or less.

titanium dioxide; [in powder form containing <1 % of particles with aerodynamic diameter ≤ 10 µm]:

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

organ toxicant, repeated exposure.

Amines, N-C16-C18-alkyl-(evennumbered, C18 unsaturated) propane-1,3-diaminium di[(9Z)-octadec-9-enoate]:

Exposure routes : Ingestion

Assessment : May cause damage to organs through prolonged or repeated

exposure.

#### Repeated dose toxicity

**Product:** 

Remarks : This information is not available.

#### **Aspiration toxicity**

#### **Product:**

May be fatal if swallowed and enters airways.

May be fatal if swallowed and enters airways.

# **Components:**

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:

May be fatal if swallowed and enters airways.

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# titanium dioxide; [in powder form containing <1 % of particles with aerodynamic diameter $\leq$ 10 µm]:

No aspiration toxicity classification

#### **Further information**

**Product:** 

Remarks : Risks of irreversible effects after a single exposure.

Ingestion causes irritation of upper respiratory system and

gastrointestinal disturbance.

Ingestion causes burns of the upper digestive and respiratory

tracts.

# **Components:**

Molybdenum trioxide, reaction products with bis[O,O-bis(2-ethylhexyl)] hydrogen dithiophosphate:

Remarks : Ingestion causes irritation of upper respiratory system and

gastrointestinal disturbance.

#### 12. ECOLOGICAL INFORMATION

#### **Ecotoxicity**

**Product:** 

Toxicity to fish

Remarks: Toxic to aquatic organisms, may cause long-term

adverse effects in the aquatic environment.

Toxicity to daphnia and other :

aquatic invertebrates

Remarks: No data available

Toxicity to algae/aquatic

plants

Remarks: No data available

Toxicity to microorganisms : Remarks: No data available

# **Components:**

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:

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Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 22 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

GLP: yes

Toxicity to daphnia and other :

aquatic invertebrates

EL50 (Daphnia magna (Water flea)): 3 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202

GLP: yes

Toxicity to algae/aquatic

plants

EbC50 (Pseudokirchneriella subcapitata (green algae)): 26

mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

**Ecotoxicology Assessment** 

Acute aquatic toxicity : Toxic to aquatic life.

Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

titanium dioxide; [in powder form containing <1 % of particles with aerodynamic diameter ≤ 10 µm]:

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

LC50 (Daphnia magna (Water flea)): > 100 mg/l

Exposure time: 48 h Test Type: static test

Method: OECD Test Guideline 202

calcium dihydroxide:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 50,6 mg/l

Exposure time: 96 h Test Type: static test

Method: OECD Test Guideline 203

GLP: ves

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 49,1 mg/l

Exposure time: 48 h Test Type: static test

Method: OECD Test Guideline 202

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FREUDENBERG

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GLP: yes

Toxicity to algae/aquatic

plants

EC50 (Pseudokirchneriella subcapitata (green algae)): 184,57

mg/l

Exposure time: 72 h Test Type: static test

Method: OECD Test Guideline 201

GLP: yes

**Ecotoxicology Assessment** 

Acute aquatic toxicity This product has no known ecotoxicological effects.

Chronic aquatic toxicity This product has no known ecotoxicological effects.

Amines, N-C16-C18-alkyl-(evennumbered, C18 unsaturated) propane-1,3-diaminium di[(9Z)-

octadec-9-enoate]:

LC50 (Danio rerio (zebra fish)): > 0,1 - 1 mg/l Toxicity to fish

Exposure time: 96 h

Method: OECD Test Guideline 203

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): > 0,1 - 1 mg/l

Exposure time: 48 h

Toxicity to algae/aquatic

plants

EC50 (Pseudokirchneriella subcapitata (green algae)): > 0,01

- 0,1 mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

M-Factor (Acute aquatic

toxicity)

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aquatic invertebrates (Chronic toxicity)

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 1,41 mg/l

Exposure time: 21 d Test Type: semi-static test

Method: OECD Test Guideline 211

M-Factor (Chronic aquatic

toxicity)

**Ecotoxicology Assessment** 

Acute aquatic toxicity Very toxic to aquatic life.

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Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

# Molybdenum trioxide, reaction products with bis[O,O-bis(2-ethylhexyl)] hydrogen dithiophosphate:

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

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

Method: OECD Test Guideline 203

GLP: yes

Remarks: May cause long-term adverse effects in the aquatic

environment.

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

GLP: yes

Toxicity to algae/aquatic

plants

EC50 (Pseudokirchneriella subcapitata (green algae)): > 100

mg/l

Exposure time: 72 h
Test Type: static test

Method: OECD Test Guideline 201

GLP: yes

# Persistence and degradability

**Product:** 

Biodegradability : Remarks: No data available

Physico-chemical

removability

Remarks: No data available

#### **Components:**

#### Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:

Biodegradability : Result: Readily biodegradable.

calcium dihydroxide:

Biodegradability : Remarks: The methods for determining the biological

degradability are not applicable to inorganic substances.

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Amines, N-C16-C18-alkyl-(evennumbered, C18 unsaturated) propane-1,3-diaminium di[(9Z)-octadec-9-enoate]:

Biodegradability : aerobic

Inoculum: activated sludge Result: rapidly biodegradable Biodegradation: 65 %

Exposure time: 28 d

Method: OECD Test Guideline 301D

GLP: yes

Molybdenum trioxide, reaction products with bis[O,O-bis(2-ethylhexyl)] hydrogen dithiophosphate:

Biodegradability : Result: Not rapidly biodegradable

Biodegradation: 11 % Exposure time: 28 d

Method: OECD Test Guideline 301B

Bioaccumulative potential

**Product:** 

Bioaccumulation : Remarks: This mixture contains no substance considered to

be persistent, bioaccumulating and toxic (PBT).

This mixture contains no substance considered to be very

persistent and very bioaccumulating (vPvB).

**Components:** 

butane:

Partition coefficient: n- : log Pow: 2,89

octanol/water Method: OECD Test Guideline 107

propane:

Partition coefficient: n-

octanol/water

log Pow: 2,36

Amines, N-C16-C18-alkyl-(evennumbered, C18 unsaturated) propane-1,3-diaminium di[(9Z)-octadec-9-enoate]:

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

Molybdenum trioxide, reaction products with bis[O,O-bis(2-ethylhexyl)] hydrogen dithiophosphate:

Partition coefficient: n- : log Pow: > 4

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octanol/water

Mobility in soil

Product:

Mobility : Remarks: No data available

Distribution among : Remarks: No data available

environmental compartments

Other adverse effects

Product:

Additional ecological

information

: Toxic to aquatic life with long lasting effects.

**Components:** 

titanium dioxide; [in powder form containing <1 % of particles with aerodynamic diameter ≤ 10 µm]:

Results of PBT and vPvB

assessment

Non-classified vPvB substance Non-classified PBT substance

Molybdenum trioxide, reaction products with bis[O,O-bis(2-ethylhexyl)] hydrogen dithiophosphate:

Additional ecological

information

May cause long lasting harmful effects to aquatic life.

# Hygienic standards:

#### (Allowable concentration in air, water, including fishery waters, soil)

Components	Air	Water	Soil	Data Source
butane	Concentration that prevents irritation, reflex reactions, odors when exposed to 20-30 minutes - maximum one-time: 200 mg/m3 Limiting health hazard indicator: reflectory Hazard class: Class 4 - low hazard	Maximum Permissible Concentration: 0,05 Milligrams per cubed decimeter Limiting health hazard indicator: toxic Hazard class: 3	No data available	List 1 List 5
propane	No data available	Maximum Permissible Concentration: 0,05 Milligrams per	No data available	List 5

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		cubed decimeter Limiting health hazard indicator: toxic Hazard class: 3		
titanium dioxide; [in powder form containing <1 % of particles with aerodynamic diamete ≤ 10 µm]	TSEL value: 0,5 mg/m3	Maximum Permissible Concentration: 1 Milligrams per cubed decimeter (the substance) Limiting health hazard indicator: toxic Hazard class: 4 Maximum Permissible Concentration: 0,06 Milligrams per cubed decimeter (Titanium) Limiting health hazard indicator: toxic Hazard class: 4	No data available	List 2 List 5
calcium dihydroxide	Concentration that prevents irritation, reflex reactions, odors when exposed to 20-30 minutes - maximum one-time: 0,03 mg/m3 Limiting health hazard indicator: resorptive Hazard class: Class 3 - moderately dangerous Concentration that provides admissible (acceptable) levels of risk when exposed to at least 24 hours - average daily: 0,01 mg/m3 Limiting health hazard indicator: resorptive Hazard class: Class 3 - moderately	No data available	No data available	List 1

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dangerous

For explanation of abbreviations see section 16.

#### 13. DISPOSAL CONSIDERATIONS

**Disposal methods** 

Waste from residues : Do not dispose of with domestic refuse.

Dispose of as hazardous waste in compliance with local and

national regulations.

Contaminated packaging : Packaging that is not properly emptied must be disposed of as

the unused product.

Offer empty spray cans to an established disposal company. Pressurized container: Do not pierce or burn, even after use.

The following Waste Codes are only suggestions:

Waste Code : unused product, packagings not completely emptied

16 05 04\*, gases in pressure containers (including halons)

containing hazardous substances

#### 14. TRANSPORT INFORMATION

**ADR** 

UN number : UN 1950
Proper shipping name : AEROSOLS

Class : 2

Packing group : Not assigned by regulation

Labels : 2.1
Tunnel restriction code : (D)
Environmentally hazardous : yes

IATA-DGR

UN/ID No. : UN 1950

Proper shipping name : Aerosols, flammable

Class : 2.1

Packing group : Not assigned by regulation

203

Labels : Flammable Gas

Packing instruction (cargo

aircraft)

Packing instruction : 203

(passenger aircraft)

**IMDG-Code** 

UN number : UN 1950
Proper shipping name : AEROSOLS

(naphtha (petroleum), hydrotreated light, fatty amine

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derivative)

Class : 2.1

Packing group : Not assigned by regulation

Labels : 2.1
EmS Code : F-D, S-U
Marine pollutant : yes

#### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

#### 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.

#### 15. REGULATORY INFORMATION

#### **National regulatory information**

Federal Law of 21.07.1997 No. 116-FZ (amended on 11.06.2021) "On industrial safety of hazardous production facilities".

Federal Law of 24.06.1998 No. 89-FZ (amended on 02.07.2021) "On production and consumption waste".

Federal Law of 30.03.1999 No. 52-FZ (amended on 02.07.2021) "On the Sanitary and Epidemiological Well-Being of the Population" (amended and supplemented, entered into force on 31.10.2021).

Federal Law of 04.05.1999 No. 96-FZ "On the protection of atmospheric air" (as amended on December 8, 2020).

Federal Law of 27.12.2002 No. 184-FZ (amended on 02.07.2021) "On Technical Regulation" (amended and supplemented, entered into force on 01.09.2021).

Federal Law of 10.01.2002 No. 7-FZ (amended on 02.07.2021) "On environmental protection". Federal Law of 22.07.2008 No. 123-FZ "Technical Regulations on Fire Safety Requirements" TECHNICAL REGULATIONS OF THE CUSTOMS UNION TR CU 030/2012 On requirements for lubricants, oils and special fluids (amended on 03.03.2017).

#### International Regulations

Montreal Protocol : Not applicable

Rotterdam Convention (Prior Informed Consent) : Not applicable

Stockholm Convention (Persistent Organic Pollutants) : Not applicable

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#### 16. OTHER INFORMATION

#### List of data sources used in the preparation of the Safety Data Sheet

GOST 30333-2007. Interstate standard. Safety data sheet for chemical products. Primary requirements.

GOST 12.1.004-91 System of labor safety standards (SSBT). Fire safety. General requirements.

GOST 12.1.007-76 Occupational safety standards system. Noxious substances. Classification and general safety requirements

GOST 12.1.044-89 SSBT. Fire and explosion hazard of substances and materials. Nomenclature of indicators and methods for their determination.

GOST 12.4.021 System of labor safety standards (SSBT). Ventilation systems. General requirements.

GOST 12.4.137-2001 Special footwear with leather uppers for protection against oil, oil products, acids, alkalis, non-toxic and explosive dust. Technical conditions.

GOST 12.4.252-2013 System of labor safety standards (SSBT). Means of individual protection of hands. Gloves. General technical requirements. Test methods.

GOST 14192-96. Interstate standard. Cargo marking. Minsk, 1998.

GOST 19433-88 Dangerous goods. Classification and labeling.

GOST 31340-2013. Interstate standard. Precautionary labeling of chemical products. General requirements.

GOST 32419-2013 Classification of the hazard of chemical products. General requirements.

GOST 32421-2013 Classification of chemical products, the hazard of which is due to physical and chemical properties. Test methods for explosive chemical products.

GOST 32423-2013 Hazard classification of mixed chemical products by their effects on the body.

GOST 32424-2013 Classification of the hazard of chemical products by their impact on the environment. Basic provisions.

GOST 32425-2013 Hazard classification of mixed chemical products in terms of environmental impact.

GOST R 53264-2019 Fire fighting equipment. Special protective clothing for firefighters. General technical requirements. Test methods.

GOST R 53265-2019 Fire fighting equipment. Personal protective equipment for the feet of the firefighter. General technical requirements. Test methods.

GOST R 53268-2009 Fire fighting equipment. Fire rescue belts. General technical requirements. Test methods.

GOST R 53269-2019 Fire fighting equipment. Firefighters helmets. General technical requirements. Test methods.

SanPiN 1.2.2353-08 "Carcinogenic factors and basic requirements for the prevention of carcinogenic hazard".

SanPiN 1.2.3685-21 "Hygienic standards and requirements for ensuring the safety and (or) harmlessness to humans of environmental factors" dated 28.01.2021.

SanPiN 2.1.3684-21 "Sanitary and epidemiological requirements for the maintenance of the territories of urban and rural settlements, for water bodies, drinking water and drinking water supply, atmospheric air, soils, living quarters, the operation of industrial, public premises, the organization and implementation of sanitary and anti-epidemic (preventive) measures".

SanPiN 2.2.0.555-96. 2.2. Labor hygiene. Hygienic requirements for working conditions for women. Sanitary rules and regulations.

Carriage of dangerous goods, International maritime dangerous goods (IMDG) code.

Water quality standards for fishery water bodies, including standards for maximum permissible concentrations of harmful substances in the waters of fishery water bodies (approved by order of the Ministry of Agriculture of Russia dated December 13, 2016 No. 552).

Regulations for the carriage of dangerous goods (Appendix 1 and 2) to the Agreement on International Goods Transport by Rail (SMGS), 2009.



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Agreement on International Goods Transport by Rail (SMGS).

UN Recommendations on the Transport of Dangerous Goods. Typical rules. Twenty-second

revised edition. United Nations, New York and Geneva, 2021.

Montreal Protocol (Ozone Depleting Substances) Stockholm Convention (Persistent Organic Pollutants)

#### Full text of other abbreviations

Acute Tox. Acute toxicity

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

Asp. Tox. Aspiration hazard Eye Dam. Serious eye damage

Eye Irrit. Eye irritation Flam. Gas Flammable gases Flam. Liq. Flammable liquids Press. Gas Gases under pressure

Skin Irrit. Skin irritation Skin Sens. Skin sensitisation

STOT RE Specific target organ toxicity - repeated exposure STOT SE Specific target organ toxicity - single exposure

Europe, Commission Directive 2017/164/EU establishing a 2017/164/EU

fourth list of indicative occupational exposure limit values

**RU OEL** SanPiN 1.2.3685-21 Table 2.1, Table 2.8, Table 2.16 & Table

2.17 Maximum permissible concentrations (MPC) in the air of

the working area

Short term exposure limit 2017/164/EU / STEL Limit Value - eight hours 2017/164/EU / TWA

RU OEL / MPC-STEL Maximum Permissible Concentration - Short Term Exposure RU OEL / MPC-TWA

Maximum Permissible Concentration - Time Weighted

Average

List 1 SanPiN 1.2.3685-21 Table 1.1, Table 1.10, & Table 1.11

Maximum permissible concentration (MPC) in the air of urban

and rural settlements

SanPiN 1.2.3685-21 Table 1.2, Table 1.12 & Table 1.13 List 2

Tentative Safe Exposure Levels (TSEL) in the air of urban and

rural settlements

List 5 Order of the Russian Federal Fisheries Agency "Standards of

maximum permissible concentrations of harmful substances in

fishery water bodies"

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; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); 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 -

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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; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

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