

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519  
CN



## OKS 241

Version	Revision Date:	Date of last issue: 2016-06-21	Print Date:
2.0	2018-08-09	Date of first issue: 2014-04-07	2018-08-09

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : OKS 241

Chemical nature : Active substance with propellant  
Solvent mixture

#### Manufacturer or supplier's details

Company : OKS Spezialschmierstoffe GmbH  
Ganghoferstr. 47  
D-82216 Maisach-Gernlinden  
Tel.: +49 8142 3051 500  
Fax.: +49 8142 3051 599

E-mail address of person responsible for the SDS : mcm@oks-germany.com

National contact :

Emergency telephone number : +86 512 8090 3042 (NCEC, 24 hrs)  
+86 532 8388 9090 (NRCC)

#### Recommended use of the chemical and restrictions on use

Recommended use : Lubricant spray

Restrictions on use : Restricted to professional users.

### 2. HAZARDS IDENTIFICATION

#### Emergency Overview

**Appearance** : aerosol  
**Colour** : red brown  
**Odour** : solvent-like

Extremely flammable aerosol. Pressurised container: May burst if heated. May be fatal if swallowed and enters airways. Causes skin irritation. May cause drowsiness or dizziness. Suspected of damaging fertility or the unborn child. May cause damage to organs (Central nervous system) through prolonged or repeated exposure if inhaled. Very toxic to aquatic life. Toxic to aquatic life with long lasting effects.

#### GHS Classification

Aerosols : Category 1

**Skin irritation** : **Category 2**

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Reproductive toxicity : Category 2

Specific target organ toxicity - single exposure : Category 3 (Narcotic effects)

Specific target organ toxicity - repeated exposure (Inhalation) : Category 2 (Central nervous system)

**Aspiration hazard** : **Category 1**

Acute aquatic toxicity : Category 1

Chronic aquatic toxicity : Category 2

### GHS label elements

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.  
H336 May cause drowsiness or dizziness.  
H361 Suspected of damaging fertility or the unborn child.  
H373 May cause damage to organs (Central nervous system) through prolonged or repeated exposure if inhaled.  
H400 Very toxic to aquatic life.  
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.  
P260 Do not breathe mist.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

**Response:**  
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.  
P331 Do NOT induce vomiting.

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P391 Collect spillage.

### Storage:

P405 Store locked up.  
P410 + P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F.

### Physical and chemical hazards

Extremely flammable aerosol. Pressurised container: May burst if heated.

### Health hazards

**Causes skin irritation.** Suspected of damaging fertility or the unborn child. May cause drowsiness or dizziness. May cause damage to organs through prolonged or repeated exposure if inhaled.  
**May be fatal if swallowed and enters airways.**

### Environmental hazards

Very toxic to aquatic life. Toxic to aquatic life with long lasting effects.

### Other hazards which do not result in classification

None known.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

### Hazardous components

Chemical name	CAS-No.	Concentration (% w/w)
dimethyl ether	115-10-6	>= 30 -< 50
Naphtha (petroleum), hydrotreated light; Low boiling point hydrogen treated naphtha	64742-49-0	>= 25 -< 30
copper flakes (coated with aliphatic acid)	7440-50-8	>= 2.5 -< 10
n-butyl acetate	123-86-4	>= 1 -< 10
tin	7440-31-5	>= 1 -< 10
molybdenum disulphide	1317-33-5	>= 1 -< 10
n-hexane	110-54-3	>= 1 -< 2.5

## 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.  
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.

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- In case of skin contact : Take off all contaminated clothing immediately.  
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.  
Get medical attention immediately if irritation develops and persists.  
Wash clothing before reuse.  
Thoroughly clean shoes before reuse.
- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 10 minutes.  
If easy to do, remove contact lens, if worn.  
If eye irritation persists, consult a specialist.
- If swallowed : Move the victim to fresh air.  
If accidentally swallowed obtain immediate medical attention.  
Keep respiratory tract clear.  
Do NOT induce vomiting.  
Rinse mouth with water.  
Aspiration hazard if swallowed - can enter lungs and cause damage.
- Most important symptoms and effects, both acute and delayed : Inhalation may provoke the following symptoms:  
Unconsciousness  
Dizziness  
Drowsiness  
Headache  
Nausea  
Tiredness  
Skin contact may provoke the following symptoms:  
Erythema  
Central nervous system depression  
Risk of product entering the lungs on vomiting after ingestion.  
Health injuries may be delayed.  
Causes skin irritation.  
Aspiration may cause pulmonary oedema and pneumonitis.
- Notes to physician : Treat symptomatically.

## 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : ABC powder
- Unsuitable extinguishing media : High volume water jet
- Specific hazards during fire-fighting : Fire may cause evolution of:  
Carbon oxides  
Metal oxides

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Oxides of phosphorus  
Sulphur oxides

### 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.

Specific extinguishing methods : 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.  
In the case of respirable dust and/or fumes, use self-contained breathing apparatus.  
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 vapours or spray mist.  
Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.  
Refer to protective measures listed in sections 7 and 8.

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.

Prevention of secondary hazards : Only qualified personnel equipped with suitable protective equipment may intervene.

## 7. HANDLING AND STORAGE

### Handling

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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 exposure - obtain special instructions before use.  
Avoid contact with skin and eyes.  
For personal protection see section 8.  
Keep away from fire, sparks and heated surfaces.  
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.

Avoidance of contact : Oxidizing agents

### Storage

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.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
copper flakes (coated with aliphatic acid)	7440-50-8	PC-TWA (Dust)	1 mg/m <sup>3</sup> (Copper)	GBZ 2.1-2007
		PC-TWA (Fumes)	0.2 mg/m <sup>3</sup> (Copper)	GBZ 2.1-2007
		TWA (Dust and mist)	1 mg/m <sup>3</sup> (Copper)	ACGIH
		TWA (Fumes)	0.2 mg/m <sup>3</sup> (Copper)	ACGIH
n-butyl acetate	123-86-4	PC-TWA	200 mg/m <sup>3</sup>	GBZ 2.1-2007

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		PC-STEL	300 mg/m <sup>3</sup>	GBZ 2.1-2007
		TWA	50 ppm	ACGIH
		STEL	150 ppm	ACGIH
tin	7440-31-5	TWA	2 mg/m <sup>3</sup>	ACGIH
		TWA	2 mg/m <sup>3</sup>	ACGIH
molybdenum disulphide	1317-33-5	PC-TWA	6 mg/m <sup>3</sup> (Molybdenum)	GBZ 2.1-2007
		TWA (Inhalable fraction)	10 mg/m <sup>3</sup> (Molybdenum)	ACGIH
		TWA (Respirable fraction)	3 mg/m <sup>3</sup> (Molybdenum)	ACGIH
n-hexane	110-54-3	PC-TWA	100 mg/m <sup>3</sup>	GBZ 2.1-2007
Further information: Skin				
		PC-STEL	180 mg/m <sup>3</sup>	GBZ 2.1-2007
Further information: Skin				
		TWA	50 ppm	ACGIH

### Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
n-hexane	110-54-3	2,5-hexanedione	Urine	After shift	4 mg/l	CN BEI
		2,5-hexanedione	Urine	After shift	35 micromol per litre	CN BEI
		2,5-Hexanedione	Urine	End of shift at end of work-week	0.4 mg/l	ACGIH BEI

**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

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- Eye/face protection : Safety glasses with side-shields conforming to EN166
- Hand protection  
Material : butyl-rubber  
Protective index : Class 1
- Remarks : Wear protective gloves. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. The break through time depends amongst other things on the material, the thickness and the type of glove and therefore has to be measured for each case.
- Protective measures : The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.  
Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.
- Hygiene measures : Wash face, hands and any exposed skin thoroughly after handling.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : aerosol
- Colour : red brown
- Odour : solvent-like
- Odour Threshold : No data available
- pH : Not applicable
- Melting point/range : No data available
- Boiling point/boiling range : < -20 °C  
(1,013 hPa)
- Flash point : < -20 °C  
Method: Abel-Pensky
- Evaporation rate : No data available



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Flammability (solid, gas) : Extremely flammable aerosol.

Self-ignition : No data available

Upper explosion limit / Upper flammability limit : 26.2 %(V)

Lower explosion limit / Lower flammability limit : 0.6 %(V)

Vapour pressure : 4,600 hPa (20 °C)

Relative vapour density : No data available

Density : 0.818 g/cm<sup>3</sup> (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 mm<sup>2</sup>/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.

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

Conditions to avoid : Heat, flames and sparks.

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: Central nervous system depression

Acute inhalation toxicity : Remarks: Respiration of solvent vapour may cause dizziness.  
Symptoms: Inhalation may provoke the following symptoms:, Respiratory disorder, Dizziness, Drowsiness, Vomiting, Fatigue, Vertigo, Central nervous system depression

Acute dermal toxicity : Remarks: Prolonged or repeated skin contact with liquid may cause defatting resulting in drying, redness and possible blistering.  
Symptoms: Redness, Local irritation, Skin disorders

#### Components:

##### **dimethyl ether:**

Acute inhalation toxicity : LC50 (Rat): 309 mg/l  
Exposure time: 4 h  
Test atmosphere: gas

##### **Naphtha (petroleum), hydrotreated light; Low boiling point hydrogen treated naphtha:**

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg  
Method: OECD Test Guideline 401  
GLP: yes

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

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Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg  
Method: OECD Test Guideline 402  
GLP: yes  
Assessment: The substance or mixture has no acute dermal toxicity

### **n-butyl acetate:**

Acute oral toxicity : LD50 Oral (Rat): 10,760 mg/kg

### **tin:**

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg  
Method: OECD Test Guideline 423  
GLP: yes  
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : LC50 (Rat): > 5 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 403  
GLP: yes  
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg  
Method: OECD Test Guideline 402  
GLP: yes  
Assessment: The substance or mixture has no acute dermal toxicity

### **molybdenum disulphide:**

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute dermal toxicity : LD50 (Rat): > 16,000 mg/kg

### **n-hexane:**

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg  
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): 259.35 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour  
Method: OECD Test Guideline 403

Acute dermal toxicity : LD50 (Rabbit): 3,350 mg/kg  
Method: OECD Test Guideline 402

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Assessment: The substance or mixture has no acute dermal toxicity

### Skin corrosion/irritation

#### Product:

Remarks : Irritating to skin.

#### Components:

##### dimethyl ether:

Assessment : No skin irritation  
Result : No skin irritation

##### Naphtha (petroleum), hydrotreated light; Low boiling point hydrogen treated naphtha:

Species : Rabbit  
Assessment : Irritating to skin.  
Method : OECD Test Guideline 404  
Result : Irritating to skin.  
GLP : yes

##### tin:

Assessment : No skin irritation  
Result : No skin irritation

##### molybdenum disulphide:

Assessment : No skin irritation  
Result : No skin irritation

##### n-hexane:

Species : Rabbit  
Assessment : Irritating to skin.  
Method : OECD Test Guideline 404  
Result : Irritating to skin.

### Serious eye damage/eye irritation

#### Product:

Remarks : Contact with eyes may cause irritation.

#### Components:

##### dimethyl ether:

Result : No eye irritation  
Assessment : No eye irritation

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### **Naphtha (petroleum), hydrotreated light; Low boiling point hydrogen treated naphtha:**

Species : Rabbit  
Result : No eye irritation  
Assessment : No eye irritation  
Method : OECD Test Guideline 405  
GLP : yes

### **tin:**

Result : No eye irritation  
Assessment : No eye irritation

### **molybdenum disulphide:**

Result : No eye irritation  
Assessment : No eye irritation

### **n-hexane:**

Species : Rabbit  
Result : No eye irritation  
Assessment : No eye irritation  
Method : OECD Test Guideline 405

### **Respiratory or skin sensitisation**

#### **Product:**

Remarks : This information is not available.

#### **Components:**

##### **dimethyl ether:**

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

### **Naphtha (petroleum), hydrotreated light; Low boiling point hydrogen treated naphtha:**

Test Type : Buehler Test  
Species : Guinea pig  
Assessment : Does not cause skin sensitisation.  
Method : OECD Test Guideline 406  
Result : Does not cause skin sensitisation.  
GLP : yes

### **molybdenum disulphide:**

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

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### **n-hexane:**

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

### **Germ cell mutagenicity**

#### **Product:**

Genotoxicity in vitro : Remarks: No data available

Genotoxicity in vivo : Remarks: No data available

#### **Components:**

##### **dimethyl ether:**

Genotoxicity in vitro : Test Type: Ames test  
Method: OECD Test Guideline 471  
Result: negative

Genotoxicity in vivo : Species: Drosophila melanogaster (vinegar fly)  
Application Route: inhalation (gas)  
Method: OECD Test Guideline 477  
Result: negative

##### **molybdenum disulphide:**

Germ cell mutagenicity - Assessment : Animal testing did not show any mutagenic effects.

### **Carcinogenicity**

#### **Product:**

Remarks : No data available

#### **Components:**

##### **dimethyl ether:**

Species : Rat  
Application Route : inhalation (gas)  
Exposure time : 2 Years  
: 47 mg/l  
Method : OECD Test Guideline 453  
Result : negative

##### **molybdenum disulphide:**

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

### Reproductive toxicity

#### Product:

Effects on fertility : Remarks: No data available

Effects on foetal development : Remarks: No data available

#### Components:

##### **dimethyl ether:**

Reproductive toxicity - Assessment : Animal testing did not show any effects on fertility.

##### **n-hexane:**

Reproductive toxicity - Assessment : Suspected human reproductive toxicant

### STOT - single exposure

#### Components:

##### **Naphtha (petroleum), hydrotreated light; Low boiling point hydrogen treated naphtha:**

Exposure routes : Inhalation  
Target Organs : Central nervous system  
Assessment : May cause drowsiness or dizziness.

##### **n-butyl acetate:**

Exposure routes : Inhalation  
Assessment : May cause drowsiness or dizziness.

##### **molybdenum disulphide:**

Assessment : The substance or mixture is not classified as specific target organ toxicant, single exposure.

##### **n-hexane:**

Exposure routes : Inhalation  
Target Organs : Central nervous system  
Assessment : The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.

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### STOT - repeated exposure

#### Components:

##### **molybdenum disulphide:**

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

##### **n-hexane:**

Exposure routes : Inhalation  
Target Organs : Central nervous system  
Assessment : The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

### 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:

##### **dimethyl ether:**

No aspiration toxicity classification

##### **Naphtha (petroleum), hydrotreated light; Low boiling point hydrogen treated naphtha:**

May be fatal if swallowed and enters airways.

##### **n-hexane:**

May be fatal if swallowed and enters airways.

### Further information

#### Product:

Remarks : Ingestion causes irritation of upper respiratory system and gastrointestinal disturbance.



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### Components:

#### **molybdenum disulphide:**

Remarks : Information given is based on data on the components and the toxicology of similar products.

## 12. ECOLOGICAL INFORMATION

### **Ecotoxicity**

#### Product:

Toxicity to fish : Remarks: Very toxic to aquatic organisms.

Toxicity to daphnia and other aquatic invertebrates : Remarks: No data available

Toxicity to algae : Remarks: No data available

Toxicity to microorganisms : Remarks: No data available

#### Components:

#### **dimethyl ether:**

Toxicity to fish : LC50 (Poecilia reticulata (guppy)): > 4,100 mg/l  
Exposure time: 96 h  
Test Type: semi-static test

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 4,400 mg/l  
Exposure time: 48 h  
Test Type: static test

Toxicity to algae : EC50 (green algae): 154.9 mg/l  
Exposure time: 96 h

#### **Naphtha (petroleum), hydrotreated light; Low boiling point hydrogen treated naphtha:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 10 mg/l  
Exposure time: 96 h  
Test Type: semi-static test  
Method: OECD Test Guideline 203  
GLP: yes

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 4.5 mg/l  
Exposure time: 48 h  
Test Type: static test  
Method: OECD Test Guideline 202

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Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (green algae)): 3.1 mg/l  
Exposure time: 72 h  
Test Type: static test

### Ecotoxicology Assessment

Acute aquatic toxicity : Toxic to aquatic life.

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

### copper flakes (coated with aliphatic acid):

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.0094 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.044 mg/l  
Exposure time: 48 h

M-Factor (Acute aquatic toxicity) : 10

M-Factor (Chronic aquatic toxicity) : 1

### Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

Chronic aquatic toxicity : This product has no known ecotoxicological effects.

### tin:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): > 0.0124 mg/l  
Exposure time: 96 h  
Test Type: static test  
Method: OECD Test Guideline 203  
Remarks: No toxicity at the limit of solubility

Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (green algae)): > 0.0192 mg/l  
Test Type: static test  
Method: OECD Test Guideline 201  
Remarks: No toxicity at the limit of solubility

### molybdenum disulphide:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): > 100 mg/l  
Exposure time: 96 h

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Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l  
Exposure time: 48 h

Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l  
Exposure time: 72 h

### **n-hexane:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 12.51 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 21.85 mg/l  
Exposure time: 48 h

Toxicity to algae : ErC50 (Pseudokirchneriella subcapitata (green algae)): 9.285 mg/l  
Exposure time: 72 h

### **Persistence and degradability**

#### **Product:**

Biodegradability : Remarks: No data available

Physico-chemical removability : Remarks: No data available

#### **Components:**

##### **dimethyl ether:**

Biodegradability : aerobic  
Inoculum: activated sludge  
Result: Not readily biodegradable.  
Biodegradation: 5 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301D

##### **Naphtha (petroleum), hydrotreated light; Low boiling point hydrogen treated naphtha:**

Biodegradability : aerobic  
Inoculum: activated sludge  
Result: rapidly biodegradable  
Biodegradation: 90.35 %  
Exposure time: 28 d

##### **copper flakes (coated with aliphatic acid):**

Biodegradability : Remarks: The methods for determining biodegradability are not applicable to inorganic substances.

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### **n-butyl acetate:**

Biodegradability : Result: Readily biodegradable.

### **n-hexane:**

Biodegradability : aerobic  
Inoculum: activated sludge  
Result: rapidly biodegradable  
Biodegradation: 21 %  
Exposure time: 28 d  
GLP: yes

### **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:**

##### **dimethyl ether:**

Partition coefficient: n-octanol/water : log Pow: 0.07 (25 °C)

##### **Naphtha (petroleum), hydrotreated light; Low boiling point hydrogen treated naphtha:**

Partition coefficient: n-octanol/water : log Pow: 3.4 - 5.2

##### **n-butyl acetate:**

Bioaccumulation : Remarks: No data available

Partition coefficient: n-octanol/water : log Pow: 2.3

##### **n-hexane:**

Bioaccumulation : Bioconcentration factor (BCF): 501.19

Partition coefficient: n-octanol/water : log Pow: 4 (20 °C)  
pH: 7

### **Mobility in soil**

#### **Product:**

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Mobility : Remarks: No data available

Distribution among environmental compartments : Remarks: No data available

### Other adverse effects

#### Product:

Additional ecological information : Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

#### Components:

##### **dimethyl ether:**

Results of PBT and vPvB assessment : Non-classified vPvB substance Non-classified PBT substance

##### **tin:**

Results of PBT and vPvB assessment : Remarks: Not applicable

## 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.

## 14. TRANSPORT INFORMATION

### International Regulations

#### **IATA-DGR**

UN/ID No. : UN 1950  
Proper shipping name : Aerosols, flammable  
Class : 2.1  
Packing group : Not assigned by regulation  
Labels : Flammable Gas  
Packing instruction (cargo aircraft) : 203

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Packing instruction (passenger aircraft) : 203

### IMDG-Code

UN number : UN 1950  
Proper shipping name : AEROSOLS  
(naphtha (petroleum), hydrotreated light, copper)  
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.

### National Regulations

#### 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

#### Law on the Prevention and Control of Occupational Diseases

#### Regulations on Safety Management of Hazardous Chemicals

Catalogue of Hazardous Chemicals

Product name	Status	Reference number
OKS 241	Listed	2828

List of ingredients	CAS-No.	Status	Reference number
n-butyl acetate	123-86-4	Listed	2657
n-hexane	110-54-3	Listed	2789

Identification of Major Hazard Installations for Dangerous Chemicals (GB 18218) : Not applicable

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Hazardous Chemicals for Priority Management under SAWS : Not applicable

### Regulations on Labour Protection in Workplaces where Toxic Substances are Used

Catalogue of Highly Toxic Chemicals : Not applicable

### Regulation of Environmental Management on the First Import of Chemicals and the Import and Export of Toxic Chemicals

China Severely Restricted Toxic Chemicals for Import and Export : Not applicable

## 16. OTHER INFORMATION

Date format : yyyy/mm/dd

### Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)  
ACGIH BEI : ACGIH - Biological Exposure Indices (BEI)  
CN BEI : China. Biological Occupational Exposure Limits for 15 chemicals.  
GBZ 2.1-2007 : Occupational exposure limits for hazardous agents in the workplace - Chemical hazardous agents.  
ACGIH / TWA : 8-hour, time-weighted average  
ACGIH / STEL : Short-term exposure limit  
GBZ 2.1-2007 / PC-TWA : Permissible concentration - time weighted average  
GBZ 2.1-2007 / PC-STEL : Permissible concentration - short term exposure limit

AICS - Australian Inventory of Chemical Substances; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; CPR - Controlled Products Regulations; 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; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Pre-

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vention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; 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; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; 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; WHMIS - Workplace Hazardous Materials Information System

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