

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 - PL  
(Commission Regulation (EU) 2020/878)



## OKS 521

Version	Revision Date:	Date of last issue: 08.08.2018	Print Date:
2.2	18.07.2022	Date of first issue: 09.07.2016	18.07.2022

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

### 1.1 Product identifier

Product name : OKS 521

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

Use of the Sub-  
stance/Mixture : Lubricant spray

Recommended restrictions : Restricted to professional users.  
on use

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

Company : 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

National contact :

### 1.4 Emergency telephone number

Emergency telephone num- : +49 8142 3051 517  
ber Warszawa: +48 22 619 66 54

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

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

Aerosols, Category 1 H222: Extremely flammable aerosol.  
H229: Pressurised container: May burst if heated.

Skin irritation, Category 2 H315: Causes skin irritation.

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

Specific target organ toxicity - single ex- H336: May cause drowsiness or dizziness.  
posure, Category 3, Central nervous

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system

Aspiration hazard, Category 1

H304: May be fatal if swallowed and enters airways.

Long-term (chronic) aquatic hazard, Category 3

H412: Harmful to aquatic life with long lasting effects.

## 2.2 Label elements

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

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.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements

<b>Prevention:</b>	
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.
<b>Response:</b>	
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P331	Do NOT induce vomiting.
<b>Storage:</b>	
P410 + P412	Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F.

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

n-butyl acetate

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

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### 2.3 Other hazards

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

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

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

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

Chemical nature : Active substance with propellant  
Solvent  
Molybdenum disulfide  
graphite

#### Components

Chemical name	CAS-No. EC-No.  Index-No. Registration number	Classification	specific concentration limit M-Factor Notes Acute toxicity estimate	Concentration (% w/w)
n-butyl acetate	123-86-4 204-658-1  607-025-00-1 01-2119485493-29-XXXX	Flam. Liq.3; H226 STOT SE3; H336; EUH066		>= 20 - < 30
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane	921-024-6  01-2119475514-35-XXXX	Flam. Liq.2; H225 Skin Irrit.2; H315 STOT SE3; H336 Asp. Tox.1; H304 Aquatic Chronic2; H411		>= 20 - < 25
1-Butanol, titanium(4+) salt, homopolymer	9022-96-2	Eye Irrit.2; H319		>= 1 - < 10
isobutane	75-28-5	Flam. Gas1A;		>= 1 - < 10

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	200-857-2  601-004-00-0 01-2119485395-27-XXXX	H220 Press. GasCompr. Gas; H280	Note U (table 3.1), Note C	
Substances with a workplace exposure limit :				
molybdenum disulphide	1317-33-5 215-263-9	Not classified		$\geq 10 - < 20$
butane	106-97-8 203-448-7  601-004-00-0	Flam. Gas1A; H220 Press. GasCompr. Gas; H280	Note U (table 3.1), Note C	$\geq 10 - < 20$
dimethyl ether	115-10-6 204-065-8  603-019-00-8 01-2119472128-37-XXXX	Flam. Gas1A; H220 Press. GasLiquefied gas; H280	Note U (table 3.1)	$\geq 10 - < 20$
propane	74-98-6 200-827-9  601-003-00-5 01-2119486944-21-XXXX	Flam. Gas1A; H220 Press. GasCompr. Gas; H280	Note U (table 3.1)	$\geq 1 - < 10$
Graphite	7782-42-5 231-955-3	Not classified		$\geq 1 - < 10$

For explanation of abbreviations see section 16.

## SECTION 4: First aid measures

### 4.1 Description of 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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tion.

- 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.  
Seek medical advice.
- 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.

### 4.2 Most important symptoms and effects, both acute and delayed

- Symptoms : Inhalation may provoke the following symptoms:  
Unconsciousness  
Dizziness  
Drowsiness  
Headache  
Nausea  
Tiredness  
Skin contact may provoke the following symptoms:  
Erythema
- Aspiration may cause pulmonary oedema and pneumonitis.
- Risks : Central nervous system depression  
Risk of product entering the lungs on vomiting after ingestion.  
Health injuries may be delayed.  
Causes skin irritation.

### 4.3 Indication of any immediate medical attention and special treatment needed

- Treatment : Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media : ABC powder
- Unsuitable extinguishing media : High volume water jet

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### 5.2 Special hazards arising from the substance or mixture

- Specific hazards during fire-fighting : 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  
Sulphur oxides  
Metal oxides

### 5.3 Advice for firefighters

- 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.
- 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.

## SECTION 6: Accidental release measures

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

- Personal precautions : 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.  
Only qualified personnel equipped with suitable protective equipment may intervene.

### 6.2 Environmental precautions

- 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.

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

- Methods for 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.

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### 6.4 Reference to other sections

For personal protection see section 8.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

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

### 7.2 Conditions for safe storage, including any incompatibilities

- Requirements for storage areas and containers : 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.

### 7.3 Specific end use(s)

- Specific use(s) : Specific instructions for handling, not required.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational Exposure Limits

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Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
n-butyl acetate	123-86-4	NDS	240 mg/m3	PL OEL (2018-07-07)
		NDSch	720 mg/m3	PL OEL (2018-07-07)
		STEL	150 ppm 723 mg/m3	2019/1831/EU (2019-10-31)
Further information: Indicative				
		TWA	50 ppm 241 mg/m3	2019/1831/EU (2019-10-31)
Further information: Indicative				
molybdenum disulphide	1317-33-5	NDS	4 mg/m3 (Molybdenum)	PL OEL (2018-07-07)
		NDSch	10 mg/m3 (Molybdenum)	PL OEL (2018-07-07)
butane	106-97-8	NDS	1.900 mg/m3	PL OEL (2018-07-07)
		NDSch	3.000 mg/m3	PL OEL (2018-07-07)
dimethyl ether	115-10-6	TWA	1.000 ppm 1.920 mg/m3	2000/39/EC (2000-06-16)
Further information: Indicative				
		NDS	1.000 mg/m3	PL OEL (2018-07-07)
1-Butanol, titanium(4+) salt, homopolymer	9022-96-2	NDS	10 mg/m3 (Titanium)	PL OEL (2018-07-07)
		NDSch	30 mg/m3 (Titanium)	PL OEL (2018-07-07)
propane	74-98-6	NDS	1.800 mg/m3	PL OEL (2018-07-07)
Graphite	7782-42-5	NDS (inhalable fraction)	4 mg/m3	PL OEL (2018-07-07)
		NDS (respirable fraction)	1 mg/m3	PL OEL (2018-07-07)

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

Substance name	End Use	Exposure routes	Potential health effects	Value
n-butyl acetate	Workers	Inhalation	Long-term systemic effects	300 mg/m3
	Workers	Inhalation	Acute systemic effects	600 mg/m3
	Workers	Dermal	Long-term local effects	11 mg/cm2
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane	Workers	Skin contact	Long-term systemic effects	773 mg/kg bw/day



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	Workers	Inhalation	Long-term systemic effects	2035 mg/m3
dimethyl ether	Workers	Inhalation	Long-term exposure	1894 mg/m3
Graphite	Workers	Inhalation	Long-term local effects	1,2 mg/m3

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

Substance name	Environmental Compartment	Value
n-butyl acetate	Fresh water	0,18 mg/l
	Marine water	0,018 mg/l
	Microbiological Activity in Sewage Treatment Systems	35,6 mg/l
	Fresh water sediment	0,981 mg/kg
	Marine sediment	0,0981 mg/kg
	Soil	0,09 mg/kg
dimethyl ether	Fresh water	0,155 mg/l
	Marine water	0,016 mg/l
	Sewage treatment plant	160 mg/l
	Fresh water sediment	0,681 mg/kg
	Marine sediment	0,069 mg/kg
	Soil	0,045 mg/kg

## 8.2 Exposure controls

### 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

Eye protection : Safety glasses with side-shields

#### Hand protection

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

Remarks : Wear protective gloves. 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.  
The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

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.

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

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Filter type : Filter type A-P

Protective measures : The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical state	: aerosol
Colour	: black
Odour	: characteristic
Odour Threshold	: No data available
Melting point/range	: No data available
Boiling point/boiling range	: -161,0 °C (1.013 hPa)
Flammability (solid, gas)	: Extremely flammable aerosol.
Upper explosion limit / Upper flammability limit	: 18,6 %(V)
Lower explosion limit / Lower flammability limit	: 1,1 %(V)
Flash point	: -60 °C Method: Abel-Pensky
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
pH	: Not applicable substance/mixture is non-soluble (in water)
Viscosity	
Viscosity, dynamic	: No data available
Viscosity, kinematic	: < 20,5 mm <sup>2</sup> /s (40 °C)
Solubility(ies)	
Water solubility	: insoluble

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Solubility in other solvents : No data available

Partition coefficient: n-octanol/water : No data available

Vapour pressure : 4.600 hPa (20 °C)

Relative density : 0,79 (20 °C)  
Reference substance: Water  
The value is calculated

Density : 0,79 g/cm<sup>3</sup>  
(20 °C)

Bulk density : No data available

Relative vapour density : No data available

### 9.2 Other information

Explosives : Not explosive

Oxidizing properties : No data available

Self-ignition : No data available

Metal corrosion rate : Not corrosive to metals

Evaporation rate : No data available

Sublimation point : No data available

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No hazards to be specially mentioned.

### 10.2 Chemical stability

Stable under normal conditions.

### 10.3 Possibility of hazardous reactions

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

### 10.4 Conditions to avoid

Conditions to avoid : Heat, flames and sparks.  
Strong sunlight for prolonged periods.  
Risk of receptacle bursting.

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### 10.5 Incompatible materials

Materials to avoid : Oxidizing agents

### 10.6 Hazardous decomposition products

No decomposition if stored and applied as directed.

## SECTION 11: Toxicological information

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

#### 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, Fa- tigue, Vertigo, Central nervous system depression
Acute dermal toxicity	: Symptoms: Redness, Local irritation

##### Components:

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

Acute oral toxicity	: LD50 (Rat): 10.768 mg/kg
Acute inhalation toxicity	: LC50 (Rat): > 21 mg/l Exposure time: 4 h Test atmosphere: vapour Method: OECD Test Guideline 403 GLP: yes Assessment: The substance or mixture has no acute inhala- tion toxicity
Acute dermal toxicity	: LD50 (Rabbit): > 17.600 mg/kg

##### **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 tox- icity
Acute inhalation toxicity	: LC50 (Rat): > 25,2 mg/l Exposure time: 4 h Test atmosphere: vapour Assessment: The substance or mixture has no acute inhala-

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tion toxicity

Acute dermal toxicity : LD50 (Rat): > 2,8 g/kg  
Assessment: The substance or mixture has no acute dermal toxicity

### isobutane:

Acute inhalation toxicity : LC50 (Rat): 658 mg/l  
Exposure time: 4 h  
Test atmosphere: gas

### molybdenum disulphide:

Acute oral toxicity : LD50 (Rat): > 5.000 mg/kg  
Acute dermal toxicity : LD50 (Rat): > 16.000 mg/kg

### butane:

Acute inhalation toxicity : LC50 (Rat): 658 mg/l  
Exposure time: 4 h  
Test atmosphere: gas

### dimethyl ether:

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

### Graphite:

Acute oral toxicity : LD50 (Rat): > 2.000 mg/kg  
Method: OECD Test Guideline 401  
Assessment: The substance or mixture has no acute oral toxicity

## Skin corrosion/irritation

### Product:

Remarks : Irritating to skin.

### Components:

#### n-butyl acetate:

Species : Rabbit  
Assessment : No skin irritation  
Method : OECD Test Guideline 404  
Result : Repeated exposure may cause skin dryness or cracking.

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

Species : Rabbit

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

### **molybdenum disulphide:**

Assessment : No skin irritation  
Result : No skin irritation

### **dimethyl ether:**

Assessment : No skin irritation  
Result : No skin irritation

### **Serious eye damage/eye irritation**

#### **Product:**

Result : Eye irritation  
Remarks : Irritating to eyes.

#### **Components:**

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

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

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

Species : Rabbit  
Assessment : No eye irritation  
Result : No eye irritation

##### **1-Butanol, titanium(4+) salt, homopolymer:**

Result : Eye irritation

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

Assessment : No eye irritation  
Result : No eye irritation

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

Assessment : No eye irritation  
Result : No eye irritation

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### Respiratory or skin sensitisation

#### Product:

Remarks : This information is not available.

#### Components:

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

Test Type	: Maximisation Test
Exposure routes	: Dermal
Species	: Guinea pig
Assessment	: Does not cause skin sensitisation.
Method	: OECD Test Guideline 406
Result	: Does not cause skin sensitisation.

##### **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.

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

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

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

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:

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

Genotoxicity in vitro	: Test Type: Ames test Test system: Salmonella typhimurium Method: OECD Test Guideline 471 Result: negative
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	: Test Type: Chromosome aberration test in vitro Test system: Chinese hamster cells Method: OECD Test Guideline 473
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Result: negative

Genotoxicity in vivo : Species: Mouse  
Application Route: Oral  
Method: OECD Test Guideline 474  
Result: negative

Germ cell mutagenicity- Assessment : Tests on bacterial or mammalian cell cultures did not show mutagenic effects., Animal testing did not show any mutagenic effects.

### 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

### molybdenum disulphide:

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

### 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

## Carcinogenicity

### Product:

Remarks : No data available

### Components:

#### n-butyl acetate:

Carcinogenicity - Assessment : Not classifiable as a human carcinogen.

#### molybdenum disulphide:

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

#### dimethyl ether:

Species : Rat



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

### Reproductive toxicity

#### Product:

Effects on fertility : Remarks: No data available

Effects on foetal development : Remarks: No data available

#### Components:

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

Effects on fertility : Test Type: Two-generation study  
Species: Rat  
Application Route: inhalation (vapour)  
General Toxicity - Parent: NOAEC: 750 mg/l  
General Toxicity F1: NOAEC: 750 mg/l  
General Toxicity F2: NOAEC: 750 mg/l  
Method: OECD Test Guideline 416  
Result: Embryotoxic effects and adverse effects on the offspring were detected.

Reproductive toxicity - Assessment : - Fertility -  
No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments.  
- Teratogenicity -  
No toxicity to reproduction

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

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

### STOT - single exposure

#### Components:

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

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.

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

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Assessment : May cause drowsiness or dizziness.

### **molybdenum disulphide:**

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

### **STOT - repeated exposure**

#### **Components:**

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

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

##### **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.

### **molybdenum disulphide:**

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

### **Repeated dose toxicity**

#### **Product:**

Remarks : This information is not available.

#### **Components:**

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

Species : Rat  
NOAEL : 125 mg/kg  
Application Route : Oral

### **Aspiration toxicity**

#### **Product:**

May be fatal if swallowed and enters airways.

May be fatal if swallowed and enters airways.

#### **Components:**

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

No aspiration toxicity classification

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

May be fatal if swallowed and enters airways.

**dimethyl ether:**

No aspiration toxicity classification

### 11.2 Information on other hazards

#### Endocrine disrupting properties

**Product:**

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

#### Further information

**Product:**

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

**Components:**

**molybdenum disulphide:**

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

## SECTION 12: Ecological information

### 12.1 Toxicity

**Product:**

Toxicity to fish : Remarks: Harmful 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

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### Components:

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

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 18 mg/l  
Exposure time: 96 h  
Test Type: flow-through test  
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia (water flea)): 44 mg/l  
Exposure time: 48 h  
Test Type: static test

Toxicity to algae/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): 397 mg/l  
Exposure time: 72 h  
Test Type: static test

Toxicity to microorganisms : EC50 (Tetrahymena pyriformis): 356 mg/l  
Exposure time: 40 h  
Test Type: Growth inhibition

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 23 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)  
Test Type: Reproduction Test  
GLP: yes

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

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.

#### **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/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l  
Exposure time: 72 h

### 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/aquatic plants : EC50 (green algae): 154,9 mg/l  
Exposure time: 96 h

## 12.2 Persistence and degradability

### Product:

Biodegradability : Remarks: No data available

Physico-chemical removability : Remarks: No data available

### Components:

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

Biodegradability : Test Type: Primary biodegradation  
Result: rapidly biodegradable  
Biodegradation: 83 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301D

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

Biodegradability : Result: Readily biodegradable.

#### **dimethyl ether:**

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

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### 12.3 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:

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

Partition coefficient: n-octanol/water : log Pow: 2,3 (25 °C)  
pH: 7  
Method: OECD Test Guideline 117  
GLP: yes

##### **isobutane:**

Partition coefficient: n-octanol/water : log Pow: 2,88  
Method: OECD Test Guideline 107

##### **butane:**

Partition coefficient: n-octanol/water : log Pow: 2,89  
Method: OECD Test Guideline 107

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

Partition coefficient: n-octanol/water : log Pow: 0,07 (25 °C)

##### **propane:**

Partition coefficient: n-octanol/water : log Pow: 2,36

##### **Graphite:**

Partition coefficient: n-octanol/water : Remarks: No data available

### 12.4 Mobility in soil

#### Product:

Mobility : Remarks: No data available

Distribution among environmental compartments : Remarks: No data available

### 12.5 Results of PBT and vPvB assessment

#### Product:

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

### Components:

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

Assessment : Non-classified PBT substance. Non-classified vPvB substance

#### **dimethyl ether:**

Assessment : Non-classified vPvB substance. Non-classified PBT substance

## 12.6 Endocrine disrupting properties

### Product:

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

## 12.7 Other adverse effects

### Product:

Additional ecological information : Harmful to aquatic life with long lasting effects.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Product : Do not dispose of with domestic refuse.  
Dispose of as hazardous waste in compliance with local and national regulations.

Waste codes should be assigned by the user based on the application for which the product was used.

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

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### SECTION 14: Transport information

#### 14.1 UN number or ID number

ADN	:	UN 1950
ADR	:	UN 1950
RID	:	UN 1950
IMDG	:	UN 1950
IATA	:	UN 1950

#### 14.2 UN proper shipping name

ADN	:	AEROSOLS
ADR	:	AEROSOLS
RID	:	AEROSOLS
IMDG	:	AEROSOLS
IATA	:	Aerosols, flammable

#### 14.3 Transport hazard class(es)

ADN	:	2
ADR	:	2
RID	:	2
IMDG	:	2.1
IATA	:	2.1

#### 14.4 Packing group

ADN		
Packing group	:	Not assigned by regulation
Classification Code	:	5F
Labels	:	2.1

ADR		
Packing group	:	Not assigned by regulation
Classification Code	:	5F
Labels	:	2.1
Tunnel restriction code	:	(D)

RID		
Packing group	:	Not assigned by regulation
Classification Code	:	5F
Hazard Identification Number	:	23
Labels	:	2.1

IMDG		
Packing group	:	Not assigned by regulation



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Labels : 2.1  
EmS Code : F-D, S-U

### IATA (Cargo)

Packing instruction (cargo aircraft) : 203  
Packing instruction (LQ) : Y203  
Packing group : Not assigned by regulation  
Labels : Flammable Gas

### IATA (Passenger)

Packing instruction (passenger aircraft) : 203  
Packing instruction (LQ) : Y203  
Packing group : Not assigned by regulation  
Labels : Flammable Gas

## 14.5 Environmental hazards

### ADN

Environmentally hazardous : no

### ADR

Environmentally hazardous : no

### RID

Environmentally hazardous : no

### IMDG

Marine pollutant : no

## 14.6 Special precautions for user

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

## 14.7 Maritime transport in bulk according to IMO instruments

Remarks : Not applicable for product as supplied.

## SECTION 15: Regulatory information

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII) : Not applicable

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). (EU SVHC) : This product does not contain substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57).

REACH - List of substances subject to authorisation (Annex XIV) (EU. REACH-Annex XIV) : Not applicable

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Regulation (EC) No 1005/2009 on substances that deplete the ozone layer (EC 1005/2009) : Not applicable

Regulation (EU) 2019/1021 on persistent organic pollutants (recast) (EU POP) : Not applicable

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals (EU PIC) : Not applicable

: P5c

P2

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. P3a FLAMMABLE AEROSOLS

18 Liquefied extremely flammable gases (including LPG) and natural gas

Volatile organic compounds : Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control)  
Volatile organic compounds (VOC) content: 75,08 %

### Other regulations:

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

Act of 25 February 2011 on chemical substances and their mixtures (i.e. Journal of Laws of 2019, No. 0, item 1225)

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 (Official Journal of the European Union L 353 from 31.12.2008) with further adaptation to technical progress (ATP).

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC (Official Journal of the European Union L 396 from 30.12.2006, as amended).

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Ordinance of the Minister of Health of 10 August 2012 concerning the criteria and procedure of classification of chemical substances and their mixtures (consolidated text Dz. U. of 2015., pos. 208).

Ordinance of the Minister of Economy, Labour and Social Policy of 21st December 2005 concerning the basic requirements for personal protective equipment (Dz. U. Nr. 259, item 2173).

Ordinance of the Minister of Labour and Social Policy of 12 June 2018 concerning the highest allowable concentrations and levels of the agents harmful for health in the workplace (Dz.U 2018 pos 1286, with later amendments).

Ordinance of the Minister of Health of 2nd February 2011 concerning tests and measurement of agents harmful for health in the workplace (Dz. U. Nr. 33, item 166 wraz z późn. zm.).

Ordinance of the Minister of Health of 30th December 2004 on the health and safety of workers related to chemical agents at work (Dz. U. from 2005, Nr. 11, item 86, as amended).

Act of 14 December 2012. on Waste (Journal of Laws of 2013. pos. 21, as amended).

Act of 13 June 2013. On packaging and packaging waste Journal. U. of 2013. Item. 888, as amended).

Ordinance of the Minister of Climate of 2nd January 2020 on Waste Catalog (Dz. U. 2020 item 10).

Ordinance of the Minister of Environment on the requirements for carrying out the process of thermal treatment of waste and how to deal with waste produced in the process. (Dz. U. of 2016., Pos. 108)

Act of 19 August 2011 on transport of dangerous goods (Dz. U. Nr. 227, item 1367, as amended).

Government Statement of 18 February 2019 on enforcing of changes Annexes A and B of Agreement concerning international transport of dangerous goods by road (ADR) (Dz. U. 2019, item 769).

Ordinance of the Minister of Health of 20th April 2012 concerning labeling of containers of dangerous substances and dangerous mixtures and some mixtures ((consolidated text) Dz. U. z 2015 nr. 0 poz. 450).

Ordinance of the Minister of Health of 11th June 2012 concerning categories of dangerous substances and dangerous mixtures for which containers must be fitted with child-resistant fastenings and a tactile warning of danger (Dz. U. from 2012, item 688 as amended).

## 15.2 Chemical safety assessment

This information is not available.

## SECTION 16: Other information

### Full text of H-Statements

EUH066	: Repeated exposure may cause skin dryness or cracking.
H220	: Extremely flammable gas.
H225	: Highly flammable liquid and vapour.
H226	: Flammable liquid and vapour.
H280	: Contains gas under pressure; may explode if heated.
H304	: May be fatal if swallowed and enters airways.
H315	: Causes skin irritation.
H319	: Causes serious eye irritation.
H336	: May cause drowsiness or dizziness.
H411	: Toxic to aquatic life with long lasting effects.
EUH066	: Repeated exposure may cause skin dryness or cracking.

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### Full text of other abbreviations

Note C	: Some organic substances may be marketed either in a specific isomeric form or as a mixture of several isomers. In this case the supplier must state on the label whether the substance is a specific isomer or a mixture of isomers.
Note U (table 3.1)	: When put on the market gases have to be classified as "Gases under pressure", in one of the groups compressed gas, liquefied gas, refrigerated liquefied gas or dissolved gas. The group depends on the physical state in which the gas is packaged and therefore has to be assigned case by case. The following codes are assigned: Press. Gas (Comp.) Press. Gas (Liq.) Press. Gas (Ref. Liq.) Press. Gas (Diss.) Aerosols shall not be classified as gases under pressure (See Annex I, Part 2, Section 2.3.2.1, Note 2).
2000/39/EC	: Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values
2019/1831/EU	: Europe. Commission Directive 2019/1831/EU establishing a fifth list of indicative occupational exposure limit values
PL OEL	: Poland. Occupational exposure limits for airborne toxic substances
2000/39/EC / TWA	: Limit Value - eight hours
2019/1831/EU / TWA	: Limit Value - eight hours
2019/1831/EU / STEL	: Short term exposure limit
PL OEL / NDS	: Maximal Admissible Concentration
PL OEL / NDSch	: Maximal Admissible Temporary Concentration

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test popula-

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tion; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECL - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

### Further information

#### Classification of the mixture:

Aerosol 1	H222, H229
Skin Irrit. 2	H315
Eye Irrit. 2	H319
STOT SE 3	H336
Asp. Tox. 1	H304
Aquatic Chronic 3	H412

#### Classification procedure:

Based on product data or assessment
Calculation method
Based on product data or assessment
Calculation method
Based on product data or assessment
Calculation method

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