OKS 2511

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2.6	06.12.2022	Date of first issue: 30.03.2013	06.12.2022

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

1.1 Product identifier

Product name : OKS 2511

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

Use of the Substance/Mixture : Anticorrosion additive

Recommended restrictions on use : Restricted to professional users.

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 responsible for the SDS : mcm@oks-germany.com
Material Compliance Management

National contact :

1.4 Emergency telephone number

Emergency telephone number : +49 8142 3051 517 (24/7 service)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

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 - repeated exposure, Category 2, Auditory system	H373: May cause damage to organs through prolonged or repeated exposure if inhaled.

Short-term (acute) aquatic hazard, Category 1	H400: Very toxic to aquatic life.
Long-term (chronic) aquatic hazard, Category 1	H410: Very toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

Hazard pictograms :

Signal word : Danger

Hazard statements :

H222	Extremely flammable aerosol.
H229	Pressurised container: May burst if heated.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H373	May cause damage to organs (Auditory system) through prolonged or repeated exposure if inhaled.
H410	Very 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.

Storage:

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

Hazardous components which must be listed on the label:
reaction mass of ethylbenzene and xylene

Additional Labelling

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.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Chemical nature : Active agent with propellant and solvent.
Metal powder

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	specific concentration limit M-Factor Notes Acute toxicity estimate	Concentration (% w/w)
zinc powder — zinc dust (stabilised)	7440-66-6 231-175-3 030-001-01-9	Aquatic Acute1; H400 Aquatic Chronic1; H410	M-Factor: 1/1	>= 25 - < 30
reaction mass of ethylbenzene and xylene	905-588-0	Flam. Liq.3; H226 Acute Tox.4; H332 Acute Tox.4; H312 Skin Irrit.2; H315 Eye Irrit.2; H319 STOT SE3; H335 STOT RE2; H373 Asp. Tox.1; H304		>= 10 - < 20
propane	74-98-6 200-827-9 601-003-00-5	Flam. Gas1; H220 Press. GasCompr. Gas; H280		>= 10 - < 20
isobutane	75-28-5 200-857-2 601-004-00-0	Flam. Gas1A; H220 Press. GasCompr. Gas; H280		>= 1 - < 10
2-methoxy-1-methylethyl acetate	108-65-6 203-603-9	Flam. Liq.3; H226 STOT SE3; H336		>= 1 - < 10

	607-195-00-7			
Hydrocarbons, C11-C12, isoalkanes, < 2% aromatics	918-167-1	Flam. Liq.3; H226 Asp. Tox.1; H304		>= 1 - < 10
n-butyl acetate	123-86-4 204-658-1 607-025-00-1	Flam. Liq.3; H226 STOT SE3; H336; EUH066		>= 1 - < 10
acetone	67-64-1 200-662-2 606-001-00-8	Flam. Liq.2; H225 Eye Irrit.2; H319 STOT SE3; H336		>= 1 - < 10
Substances with a workplace exposure limit :				
butane	106-97-8 203-448-7 601-004-00-0	Flam. Gas1; H220 Press. GasCompr. Gas; H280		>= 30 - < 50

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

If inhaled : Obtain medical attention.
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.

In case of skin contact : Take off all contaminated clothing immediately.
Wash off immediately with soap and plenty of water.
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.
Seek medical advice.

If swallowed : Move the victim to fresh air.
Keep respiratory tract clear.
Do NOT induce vomiting.
Obtain medical attention.
Rinse mouth with water.

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

Risks : 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

5.2 Special hazards arising from the substance or mixture

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
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.
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.

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

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
butane	106-97-8	STEL	750 ppm 1,810 mg/m3	GB EH40GB EH40 (2007-08-01)
	Further information: Capable of causing cancer and/or heritable genetic damage.			
		TWA	600 ppm 1,450 mg/m3	GB EH40GB EH40 (2007-08-01)
	Further information: Capable of causing cancer and/or heritable genetic damage.			
reaction mass of ethylbenzene and xylene	Not Assigned	TWA	50 ppm 220 mg/m3	GB EH40GB EH40 (2018-08-01)
	Further information: Can be absorbed through the skin. The assigned			

	substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		STEL	100 ppm 441 mg/m3	GB EH40GB EH40 (2018-08-01)
	Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		TWA	50 ppm 221 mg/m3	2000/39/EC2000/39/EC (2000-06-16)
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			
		STEL	100 ppm 442 mg/m3	2000/39/EC2000/39/EC (2000-06-16)
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			
2-methoxy-1-methylethyl acetate	108-65-6	TWA	50 ppm 274 mg/m3	GB EH40GB EH40 (2005-04-06)
	Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		STEL	100 ppm 548 mg/m3	GB EH40GB EH40 (2005-04-06)
	Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		TWA	50 ppm 275 mg/m3	2000/39/EC2000/39/EC (2000-06-16)
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			
		STEL	100 ppm 550 mg/m3	2000/39/EC2000/39/EC (2000-06-16)
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			
n-butyl acetate	123-86-4	TWA	150 ppm 724 mg/m3	GB EH40GB EH40 (2005-04-06)
		STEL	200 ppm 966 mg/m3	GB EH40GB EH40 (2005-04-06)
		STEL	150 ppm	2019/1831/E

			723 mg/m3	U2019/1831/EU (2019-10-31)
	Further information: Indicative			
		TWA	50 ppm 241 mg/m3	2019/1831/EU U2019/1831/EU (2019-10-31)
	Further information: Indicative			
acetone	67-64-1	TWA	500 ppm 1,210 mg/m3	GB EH40GB EH40 (2005-04-06)
		STEL	1,500 ppm 3,620 mg/m3	GB EH40GB EH40 (2005-04-06)
		TWA	500 ppm 1,210 mg/m3	2000/39/EC2000/39/EC (2000-06-16)
	Further information: Indicative			

Biological occupational exposure limits

Substance name	CAS-No.	Control parameters	Sampling time	Basis
reaction mass of ethylbenzene and xylene	Not Assigned	methyl hippuric acid: 650 Millimoles per mole Creatinine (Urine)	After shift	GB EH40 BAT (2011-12-18)

Derived No Effect Level (DNEL):

Substance name	End Use	Exposure routes	Potential health effects	Value
zinc powder — zinc dust (stabilised)	Workers	Inhalation	Long-term systemic effects	5 mg/m3
	Workers	Skin contact	Long-term systemic effects	83 mg/kg
reaction mass of ethylbenzene and xylene	Workers	Inhalation	Long-term systemic effects	221 mg/m3
	Workers	Inhalation	Acute systemic effects	442 mg/m3
	Workers	Inhalation	Long-term local effects	221 mg/m3
	Workers	Inhalation	Acute local effects	442 mg/m3
	Workers	Skin contact	Long-term systemic effects	212 mg/m3
2-methoxy-1-methylethyl acetate	Workers	Inhalation	Long-term systemic effects	275 mg/m3
	Workers	Inhalation	Long-term local	550 mg/m3

			effects	
	Workers	Skin contact	Long-term systemic effects	796 mg/kg bw/day
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
acetone	Workers	Inhalation	Long-term systemic effects	1210 mg/m3
	Workers	Skin contact	Long-term systemic effects	186 mg/kg

Predicted No Effect Concentration (PNEC):

Substance name	Environmental Compartment	Value
zinc powder — zinc dust (stabilised)	Fresh water	0.0206 mg/l
	Fresh water sediment	235.6 mg/kg
	Marine water	0.0061 mg/l
	Marine sediment	121 mg/kg
	Microbiological Activity in Sewage Treatment Systems	0.052 mg/l
	Soil	106.8 mg/kg
reaction mass of ethylbenzene and xylene	Fresh water	0.327 mg/l
	Marine water	0.327 mg/l
	Sewage treatment plant	6.58 mg/l
	Fresh water sediment	12.46 mg/kg
	Marine sediment	12.46 mg/kg
	Soil	2.31 mg/kg
2-methoxy-1-methylethyl acetate	Fresh water	0.635 mg/l
	Marine water	0.0635 mg/l
	Intermittent use/release	6.35 mg/l
	Microbiological Activity in Sewage Treatment Systems	100 mg/l
	Fresh water sediment	3.29 mg/kg
	Marine sediment	0.329 mg/kg
	Soil	0.29 mg/kg
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
acetone	Fresh water	10.6 mg/l
	Marine water	1.06 mg/l
	Sewage treatment plant	100 mg/l
	Fresh water sediment	30.4 mg/kg
	Marine sediment	3.04 mg/kg

	Soil	29.5 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 : Nitrile 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.

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.

Filter type : Recommended Filter type:

Organic gas and low boiling vapour type (AX)

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

Appearance : aerosol

Colour : grey

Odour : characteristic

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	:	-41 °C (1,013 hPa)
Flash point	:	-60.00 °C Method: Abel-Pensky, closed cup
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Extremely flammable aerosol.
Upper explosion limit / Upper flammability limit	:	10.9 %(V)
Lower explosion limit / Lower flammability limit	:	1.1 %(V)
Vapour pressure	:	4,000 hPa (20 °C)
Relative vapour density	:	No data available
Relative density	:	0.8 (20 °C) Reference substance: Water The value is calculated
Density	:	0.80 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	:	not determined

Explosive properties	:	Not explosive
Oxidizing properties	:	No data available

9.2 Other information

Sublimation point	:	No data available
Metal corrosion rate	:	Not corrosive to metals
Self-ignition	:	not auto-flammable

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.

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 toxicological effects

Acute toxicity

Product:

Acute inhalation toxicity	:	Acute toxicity estimate: > 5 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: Calculation method

Remarks: Harmful by inhalation.

Symptoms: Inhalation may provoke the following symptoms:, Respiratory disorder

Acute dermal toxicity : Acute toxicity estimate: > 2,000 mg/kg
Method: Calculation method

Symptoms: Redness, Local irritation

Components:

zinc powder — zinc dust (stabilised):

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 401
GLP: yes
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : LC50 (Rat): > 5.41 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

reaction mass of ethylbenzene and xylene:

Acute oral toxicity : LD50 (Rat): 3,523 - 4,000 mg/kg

Acute inhalation toxicity : Assessment: The component/mixture is moderately toxic after short term inhalation.

Acute dermal toxicity : Assessment: The component/mixture is moderately toxic after single contact with skin.

isobutane:

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

2-methoxy-1-methylethyl acetate:

Acute oral toxicity : LD50 (Rat): 6,190 mg/kg
Method: OECD Test Guideline 401
GLP: yes

Acute inhalation toxicity : LC50 (Rat): 35.7 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg
Method: OECD Test Guideline 402

Hydrocarbons, C11-C12, isoalkanes, < 2% aromatics:

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

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg
Method: OECD Test Guideline 402

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 inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit): > 17,600 mg/kg

acetone:

Acute oral toxicity : LD50 Oral (Rat): 5,800 mg/kg

butane:

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

Skin corrosion/irritation

Product:

Remarks : Irritating to skin.

Components:

zinc powder — zinc dust (stabilised):

Species : Rabbit
Assessment : No skin irritation
Result : No skin irritation

reaction mass of ethylbenzene and xylene:

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

2-methoxy-1-methylethyl acetate:

Species	:	Rabbit
Assessment	:	No skin irritation
Method	:	OECD Test Guideline 404
Result	:	No skin irritation
GLP	:	yes

n-butyl acetate:

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

Serious eye damage/eye irritation

Product:

Remarks	:	Irritating to eyes.

Components:

zinc powder — zinc dust (stabilised):

Species	:	Rabbit
Exposure time	:	24 h
Assessment	:	No eye irritation
Method	:	OECD Test Guideline 405
Result	:	No eye irritation
GLP	:	yes

reaction mass of ethylbenzene and xylene:

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

2-methoxy-1-methylethyl acetate:

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

n-butyl acetate:

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

acetone:

Species	:	Rabbit
Result	:	Eye irritation

Respiratory or skin sensitisation

Product:

Remarks	:	This information is not available.

Components:

zinc powder — zinc dust (stabilised):

Species	:	Guinea pig
Assessment	:	Did not cause sensitisation on laboratory animals.
Method	:	OECD Test Guideline 406
Result	:	Did not cause sensitisation on laboratory animals.
GLP	:	yes

reaction mass of ethylbenzene and xylene:

Assessment	:	Did not cause sensitisation on laboratory animals.
Result	:	Did not cause sensitisation on laboratory animals.

2-methoxy-1-methylethyl acetate:

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

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.

Germ cell mutagenicity

Product:

Genotoxicity in vitro	:	Remarks: No data available
Genotoxicity in vivo	:	Remarks: No data available

Components:

zinc powder — zinc dust (stabilised):

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

2-methoxy-1-methylethyl acetate:

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

n-butyl acetate:

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

Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster cells
Method: OECD Test Guideline 473
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.

Carcinogenicity

Product:

Remarks : No data available

Components:

zinc powder — zinc dust (stabilised):

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

2-methoxy-1-methylethyl acetate:

Carcinogenicity - Assessment : Not classifiable as a human carcinogen.

n-butyl acetate:

Carcinogenicity - : Not classifiable as a human carcinogen.

Assessment

Reproductive toxicity

Product:

Effects on fertility : Remarks: No data available

Effects on foetal development : Remarks: No data available

Components:

zinc powder — zinc dust (stabilised):

Reproductive toxicity - Assessment : - Fertility -

No toxicity to reproduction
- Teratogenicity -

No effects on or via lactation

reaction mass of ethylbenzene and xylene:

Reproductive toxicity - Assessment : - Fertility -

Animal testing did not show any effects on fertility.

2-methoxy-1-methylethyl acetate:

Reproductive toxicity - Assessment : - Fertility -

No toxicity to reproduction
- Teratogenicity -

No toxicity to reproduction

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

STOT - single exposure

Components:

reaction mass of ethylbenzene and xylene:

Exposure routes	:	Inhalation
Target Organs	:	Respiratory system
Assessment	:	The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

2-methoxy-1-methylethyl acetate:

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

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.

acetone:

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

STOT - repeated exposure

Components:

reaction mass of ethylbenzene and xylene:

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

2-methoxy-1-methylethyl acetate:

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

n-butyl acetate:

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:

This information is not available.

Components:

zinc powder — zinc dust (stabilised):

No aspiration toxicity classification

reaction mass of ethylbenzene and xylene:

May be fatal if swallowed and enters airways.

2-methoxy-1-methylethyl acetate:

No aspiration toxicity classification

Hydrocarbons, C11-C12, isoalkanes, < 2% aromatics:

May be fatal if swallowed and enters airways.

n-butyl acetate:

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.
Possible risk of irreversible effects.

SECTION 12: Ecological information

12.1 Toxicity

Product:

Toxicity to fish : Remarks: 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

12.2 Persistence and degradability

Product:

Biodegradability	:	Remarks: No data available
Physico-chemical removability	:	Remarks: No data available

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).

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:

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

12.6 Other adverse effects

Product:

Endocrine disrupting potential	:	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.

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

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

SECTION 14: Transport information

14.1 UN number or ID number

ADR : UN 1950

RID : UN 1950

IMDG : UN 1950

IATA : UN 1950

14.2 UN proper shipping name

ADR : AEROSOLS

RID : AEROSOLS

IMDG : AEROSOLS
(zinc powder - zinc dust (stabilized))

IATA : Aerosols, flammable

14.3 Transport hazard class(es)

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

14.4 Packing group

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
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

ADR

Environmentally hazardous	:	yes

RID

Environmentally hazardous	:	yes

IMDG

Marine pollutant	:	yes

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
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
UK REACH List of substances subject to authorisation (Annex XIV) (UK. REACH Annex XIV)	:	Not applicable
GB Export and import of hazardous chemicals - Prior Informed Consent (PIC) Regulation (GB PIC)	:	Not applicable
Regulation (EU) 2019/1148 on the marketing and use of explosives precursors	:	Listed
This product is regulated by Regulation (EU) 2019/1148: all suspicious transactions, and significant disappearances and thefts should be reported to the relevant national contact point. Please see https://ec.europa.eu/home-affairs/sites/homeaffairs/files/what-we-do/policies/crisis-and-terrorism/explosives/explosives-		acetone (ANNEX II)

precursors/docs/list_of_competent_authorities_and_national_contact_points_en.pdf

15.2 Chemical safety assessment

This information is not available.

SECTION 16: Other information

Full text of R-Phrases

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 P	:	The harmonised classification as a carcinogen or mutagen applies unless it can be shown that the substance contains less than 0,1 % w/w benzene (Einecs No 200-753-7), in which case a classification in accordance with Title II of this Regulation shall be performed also for those hazard classes. Where the substance is not classified as a carcinogen or mutagen, at least the precautionary statements (P102-)P260-P262-P301 + P310-P331 shall apply.
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).

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.
H312	:	Harmful in contact with skin.
H315	:	Causes skin irritation.
H319	:	Causes serious eye irritation.
H332	:	Harmful if inhaled.
H335	:	May cause respiratory irritation.
H336	:	May cause drowsiness or dizziness.
H373	:	May cause damage to organs through prolonged or repeated exposure if inhaled.
H400	:	Very toxic to aquatic life.
H410	:	Very toxic to aquatic life with long lasting effects.

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 P	:	The harmonised classification as a carcinogen or mutagen applies unless it can be shown that the substance contains less than 0,1 % w/w benzene (Einecs No 200-753-7), in which case a classification in accordance with Title II of this Regulation shall be performed also for those hazard classes. Where the substance is not classified as a carcinogen or mutagen, at least the precautionary statements (P102-)P260-P262-P301 + P310-P331 shall apply.
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
GB EH40	:	UK. EH40 WEL - Workplace Exposure Limits
GB EH40 BAT	:	UK. Biological monitoring guidance values
2000/39/EC / TWA	:	Limit Value - eight hours
2000/39/EC / STEL	:	Short term exposure limit
2019/1831/EU / TWA	:	Limit Value - eight hours
2019/1831/EU / STEL	:	Short term exposure limit
GB EH40 / TWA	:	Long-term exposure limit (8-hour TWA reference period)
GB EH40 / STEL	:	Short-term exposure limit (15-minute reference period)

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 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; SVHC - Substance of very high concern; 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

Classification of the mixture:		**Classification procedure:**
Aerosol 1	H222, H229	Based on product data or assessment
Skin Irrit. 2	H315	Calculation method
Eye Irrit. 2	H319	Calculation method
STOT RE 2	H373	Calculation method
Aquatic Acute 1	H400	Calculation method
Aquatic Chronic 1	H410	Calculation method

relationship. The existence of a safety data sheet for a particular jurisdiction does not necessarily mean that import or use within that jurisdiction is legally permitted. If you have any questions, please contact your responsible sales contact or authorized trading partner.