

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 - DE



OKS 451

Version	Revision Date:	Date of last issue: 30.10.2019	Print Date:
3.2	07.11.2019	Date of first issue: 09.07.2016	07.11.2019

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

1.1 Product identifier

Product name : OKS 451

Article-No. : 100311

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

Use of the Sub-
stance/Mixture : Lubricant spray

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

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

1.4 Emergency telephone number

Emergency telephone num-
ber : +49 8142 3051 517

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.

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

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :  

Signal word : Danger

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 - DE



OKS 451

Version	Revision Date:	Date of last issue: 30.10.2019	Print Date:
3.2	07.11.2019	Date of first issue: 09.07.2016	07.11.2019

Hazard statements : H222 Extremely flammable aerosol.
H229 Pressurised container: May burst if heated.
H319 Causes serious eye irritation.

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.
P280 Wear eye protection/ face protection.

Response:
P337 + P313 If eye irritation persists: Get medical advice/ attention.

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

Additional Labelling

EUH208 Contains Sulfonic acids, petroleum, calcium salts. May produce an allergic reaction.

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 substance with propellant
Synthetic hydrocarbon oil

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration limits M-Factor Notes	Concentration (% w/w)
Sulfonic acids, petroleum, calcium salts	61789-86-4 263-093-9 01-2119488992-18-0000	Skin Sens.1B; H317	>= 10 % Skin Sens.1B,	>= 0,1 - < 1

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 - DE



OKS 451

Version
3.2

Revision Date:
07.11.2019

Date of last issue: 30.10.2019
Date of first issue: 09.07.2016

Print Date:
07.11.2019

Substances with a workplace exposure limit :				
butane	106-97-8 203-448-7 601-004-00-0 01-2119474691-32-XXXX	Flam. Gas1; H220 Press. GasCompr. Gas; H280	Note U (table 3.1), Note C	$\geq 30 - < 50$
propane	74-98-6 200-827-9 601-003-00-5 01-2119486944-21-XXXX	Flam. Gas1; H220 Press. GasCompr. Gas; H280	Note U (table 3.1)	$\geq 10 - < 20$
isobutane	75-28-5 200-857-2 601-004-00-0 01-2119485395-27-XXXX	Flam. Gas1; H220 Press. GasCompr. Gas; H280	Note U (table 3.1), Note C	$\geq 10 - < 20$

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

- If inhaled : 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.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 - DE



OKS 451

Version	Revision Date:	Date of last issue: 30.10.2019	Print Date:
3.2	07.11.2019	Date of first issue: 09.07.2016	07.11.2019

If swallowed : Move the victim to fresh air.
Keep respiratory tract clear.
Do NOT induce vomiting.
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

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 fire-fighting : Fire may cause evolution of:
Carbon 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.

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.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 - DE



OKS 451

Version	Revision Date:	Date of last issue: 30.10.2019	Print Date:
3.2	07.11.2019	Date of first issue: 09.07.2016	07.11.2019

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 : Try to prevent the material from entering drains or water courses.
Prevent further leakage or spillage if safe to do so.
Local authorities should be advised if significant spillages cannot be contained.

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

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 - DE



OKS 451

Version	Revision Date:	Date of last issue: 30.10.2019	Print Date:
3.2	07.11.2019	Date of first issue: 09.07.2016	07.11.2019

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.

Storage class (TRGS 510) : 2B, Aerosol cans and lighters

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	AGW	1.000 ppm 2.400 mg/m ³	DE TRGS 900 (2006-01-01)
Peak-limit: excursion factor (category)	4;(II)			
Further information	Senate commission for the review of compounds at the work place dangerous for the health (MAK-commission).			
propane	74-98-6	AGW	1.000 ppm 1.800 mg/m ³	DE TRGS 900 (2006-01-01)
Peak-limit: excursion factor (category)	4;(II)			
Further information	Senate commission for the review of compounds at the work place dangerous for the health (MAK-commission).			
isobutane	75-28-5	AGW	1.000 ppm 2.400 mg/m ³	DE TRGS 900 (2006-01-01)
Peak-limit: excursion factor (category)	4;(II)			

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 - DE



OKS 451

Version 3.2 Revision Date: 07.11.2019 Date of last issue: 30.10.2019 Print Date: 07.11.2019
Date of first issue: 09.07.2016

ry)				
Further information	Senate commission for the review of compounds at the work place dangerous for the health (MAK-commission).			
Sulfonic acids, petroleum, calcium salts	61789-86-4	AGW (Alveolate fraction)	5 mg/m ³	DE TRGS 900 (2015-11-06)
Peak-limit: excursion factor (category)	4;(II)			
Further information	Senate commission for the review of compounds at the work place dangerous for the health (MAK-commission).			

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

Substance name	End Use	Exposure routes	Potential health effects	Value
Benzene, mono-C10-13-alkyl derivs., distn. residues	Workers	Inhalation	Long-term systemic effects	3,2 mg/m ³
	Workers	Skin contact	Long-term systemic effects	4,3 mg/kg bw/day

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

Substance name	Environmental Compartment	Value
Benzene, mono-C10-13-alkyl derivs., distn. residues	Fresh water	0,001 mg/l
	Intermittent use/release	0,001 mg/l
	Marine water	0 mg/l
	Microbiological Activity in Sewage Treatment Systems	2 mg/l
	Fresh water sediment	1,65 mg/kg
	Marine sediment	0,165 mg/kg
	Soil	0,329 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 conforming to EN166

Hand protection

Material : butyl-rubber
Protective index : Class 1

Remarks : For prolonged or repeated contact use protective gloves. The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 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.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 - DE



OKS 451

Version	Revision Date:	Date of last issue: 30.10.2019	Print Date:
3.2	07.11.2019	Date of first issue: 09.07.2016	07.11.2019

- 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
- 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.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- Appearance : aerosol
- Colour : brown
- Odour : characteristic
- Odour Threshold : No data available
- pH : Not applicable
- Melting point/range : No data available
- Boiling point/boiling range : -42 °C
(1.013 hPa)
- Flash point : -60 °C
Method: DIN 51755, 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 : 1,5 %(V)
- Vapour pressure : 3.000 hPa (20 °C)
- Relative vapour density : No data available

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 - DE



OKS 451

Version	Revision Date:	Date of last issue: 30.10.2019	Print Date:
3.2	07.11.2019	Date of first issue: 09.07.2016	07.11.2019

Density : 0,67 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 : > 350 °C

Decomposition temperature : No data available

Viscosity

Viscosity, dynamic : No data available

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

Explosive properties : Not explosive

Oxidizing properties : No data available

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.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 - DE



OKS 451

Version	Revision Date:	Date of last issue: 30.10.2019	Print Date:
3.2	07.11.2019	Date of first issue: 09.07.2016	07.11.2019

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 oral toxicity : Remarks: This information is not available.

Acute inhalation toxicity : Symptoms: Inhalation may provoke the following symptoms:,
Respiratory disorder

Acute dermal toxicity : Remarks: This information is not available.

Components:

butane:

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

isobutane:

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

Skin corrosion/irritation

Product:

Remarks : This information is not available.

Serious eye damage/eye irritation

Product:

Result : Eye irritation

Remarks : Irritating to eyes.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 - DE



OKS 451

Version	Revision Date:	Date of last issue: 30.10.2019	Print Date:
3.2	07.11.2019	Date of first issue: 09.07.2016	07.11.2019

Respiratory or skin sensitisation

Product:

Remarks : This information is not available.

Components:

Sulfonic acids, petroleum, calcium salts:

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

Germ cell mutagenicity

Product:

Genotoxicity in vitro : Remarks: No data available

Genotoxicity in vivo : Remarks: No data available

Carcinogenicity

Product:

Remarks : No data available

Reproductive toxicity

Product:

Effects on fertility : Remarks: No data available

Effects on foetal development : Remarks: No data available

Repeated dose toxicity

Product:

Remarks : This information is not available.

Aspiration toxicity

Product:

This information is not available.

Further information

Product:

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

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 - DE



OKS 451

Version	Revision Date:	Date of last issue: 30.10.2019	Print Date:
3.2	07.11.2019	Date of first issue: 09.07.2016	07.11.2019

SECTION 12: Ecological information

12.1 Toxicity

Product:

Toxicity to fish : Remarks: No data available

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).

Components:

butane:

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

propane:

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

isobutane:

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

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 - DE



OKS 451

Version	Revision Date:	Date of last issue: 30.10.2019	Print Date:
3.2	07.11.2019	Date of first issue: 09.07.2016	07.11.2019

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:

Additional ecological information : No information on ecology is available.

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:

SECTION 14: Transport information

14.1 UN number

ADR : UN 1950

IMDG : UN 1950

IATA : UN 1950

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 - DE



OKS 451

Version	Revision Date:	Date of last issue: 30.10.2019	Print Date:
3.2	07.11.2019	Date of first issue: 09.07.2016	07.11.2019

14.2 UN proper shipping name

ADR : AEROSOLS
IMDG : AEROSOLS
IATA : Aerosols, flammable

14.3 Transport hazard class(es)

ADR : 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)

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 : Division 2.1 - Flammable gases

IATA (Passenger)
Packing instruction (passenger aircraft) : 203
Packing instruction (LQ) : Y203
Packing group : Not assigned by regulation
Labels : Division 2.1 - Flammable gases

14.5 Environmental hazards

ADR
Environmentally hazardous : no

IMDG
Marine pollutant : no

IATA (Passenger)
Environmentally hazardous : no

IATA (Cargo)
Environmentally hazardous : 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

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 - DE



OKS 451

Version	Revision Date:	Date of last issue: 30.10.2019	Print Date:
3.2	07.11.2019	Date of first issue: 09.07.2016	07.11.2019

Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

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 - Candidate List of Substances of Very High Concern for Authorisation (Article 59) : 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) : Not applicable

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

Regulation (EC) No 850/2004 on persistent organic pollutants : Not applicable

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

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

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

Water contaminating class (Germany) : WGK 1 slightly hazardous to water
Classification according to AwSV, Annex 1 (5.2)

TA Luft List (Germany) : Total dust:
Not applicable
Inorganic substances in powdered form:
Not applicable
Inorganic substances in vapour or gaseous form:
Not applicable
Organic Substances:

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 - DE



OKS 451

Version	Revision Date:	Date of last issue: 30.10.2019	Print Date:
3.2	07.11.2019	Date of first issue: 09.07.2016	07.11.2019

portion Class 1: 0,64 %
others: 98,86 %

Carcinogenic substances:
Not applicable
Mutagenic:
Not applicable
Toxic to reproduction:
Not applicable

Volatile organic compounds : Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control)
Volatile organic compounds (VOC) content: 55,16 %

Other regulations:

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

15.2 Chemical safety assessment

This information is not available.

SECTION 16: Other information

Full text of H-Statements

H220 : Extremely flammable gas.
H280 : Contains gas under pressure; may explode if heated.
H317 : May cause an allergic skin reaction.

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).

DE TRGS 900 : Germany. TRGS 900 - Occupational exposure limit values.
DE TRGS 900 / AGW : Time Weighted Average

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 - DE



OKS 451

Version	Revision Date:	Date of last issue: 30.10.2019	Print Date:
3.2	07.11.2019	Date of first issue: 09.07.2016	07.11.2019

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; 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; 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
Eye Irrit. 2	H319

Classification procedure:

Based on product data or assessment
Based on product data or assessment

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SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 - DE



OKS 451

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