

SAFETY DATA SHEET

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



Klüberbio Z 2-5 Spray

Version	Revision Date:	Date of last issue: 08.10.2019	Print Date:
2.5	14.12.2020	Date of first issue: 09.02.2017	14.12.2020

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

1.1 Product identifier

Product name : Klüberbio Z 2-5 Spray

Article-No. : 081223

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 : For professional users only.

1.3 Details of the supplier of the safety data sheet

Company : Klüber Lubrication München
Geisenhausenerstr. 7
81379 München
Deutschland
Tel: +49 (0) 89 7876 0
Fax: +49 (0) 89 7876 333
info@klueber.com

E-mail address of person
responsible for the SDS : mcm@klueber.com
Material Compliance Management

National contact : Klüber Lubrication Deutschland
Geisenhausenerstraße 7
81379 München
Deutschland
Tel.: +49 89 7876 0
Fax: +49 89 7876 565
customer.service.de@klueber.com
www.klueber.com

1.4 Emergency telephone number

Emergency telephone num-
ber : +49 89 7876 700 (24 hrs)

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.

SAFETY DATA SHEET

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

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Klüberbio Z 2-5 Spray

Version	Revision Date:	Date of last issue: 08.10.2019	Print Date:
2.5	14.12.2020	Date of first issue: 09.02.2017	14.12.2020

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.

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

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 : ester oil
Propellant

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration limits M-Factor Notes	Concentration (% w/w)
Substances with a workplace exposure limit :				
isobutane	75-28-5 200-857-2 601-004-00-0 01-2119485395-27-XXXX	Flam. Gas1A; H220 Press. GasCompr. Gas; H280	Note U (table 3.1), Note C	>= 20 - < 30

SAFETY DATA SHEET

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



Klüberbio Z 2-5 Spray

Version 2.5	Revision Date: 14.12.2020	Date of last issue: 08.10.2019 Date of first issue: 09.02.2017	Print Date: 14.12.2020
----------------	------------------------------	---	---------------------------

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)	$\geq 1 - < 10$
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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 : Remove contaminated clothing. If irritation develops, get medical attention.
Wash off with soap and plenty of water.
Wash clothing before reuse.
Thoroughly clean shoes before reuse.
- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 10 minutes.
If eye irritation persists, consult a specialist.
- 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.

SAFETY DATA SHEET

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



Klüberbio Z 2-5 Spray

Version	Revision Date:	Date of last issue: 08.10.2019	Print Date:
2.5	14.12.2020	Date of first issue: 09.02.2017	14.12.2020

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 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

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.
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.

SAFETY DATA SHEET

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



Klüberbio Z 2-5 Spray

Version	Revision Date:	Date of last issue: 08.10.2019	Print Date:
2.5	14.12.2020	Date of first issue: 09.02.2017	14.12.2020

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

7.3 Specific end use(s)

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

SAFETY DATA SHEET

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

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Klüberbio Z 2-5 Spray

Version
2.5

Revision Date:
14.12.2020

Date of last issue: 08.10.2019
Date of first issue: 09.02.2017

Print Date:
14.12.2020

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
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)			
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)			

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

Substance name	End Use	Exposure routes	Potential health effects	Value
Fatty acids, C16-18 and C18-unsatd., Me esters	Workers	Skin contact	Long-term systemic effects	10 mg/kg
	Workers	Inhalation	Long-term systemic effects	6,96 mg/m ³

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

Substance name	Environmental Compartment	Value
Fatty acids, C16-18 and C18-unsatd., Me esters	Fresh water	2,504 mg/l
	Marine water	0,25 mg/l
	Sewage treatment plant	520 mg/l

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

SAFETY DATA SHEET

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



Klüberbio Z 2-5 Spray

Version 2.5	Revision Date: 14.12.2020	Date of last issue: 08.10.2019 Date of first issue: 09.02.2017	Print Date: 14.12.2020
----------------	------------------------------	---	---------------------------

Remarks	: For prolonged or repeated contact use 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.
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	: yellow
Odour	: characteristic
Odour Threshold	: No data available

Values refer to the propellant:

pH	: Not applicable
Melting point/range	: No data available
Boiling point/boiling range	: < -10 °C (1.013 hPa)
Flash point	: -80 °C Method: DIN 51755, closed cup
Evaporation rate	: No data available
Flammability (solid, gas)	: Extremely flammable aerosol.

SAFETY DATA SHEET

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



Klüberbio Z 2-5 Spray

Version 2.5	Revision Date: 14.12.2020	Date of last issue: 08.10.2019 Date of first issue: 09.02.2017	Print Date: 14.12.2020
----------------	------------------------------	---	---------------------------

Upper explosion limit / Upper flammability limit	:	11,2 %(V)
Lower explosion limit / Lower flammability limit	:	1,5 %(V)
Vapour pressure	:	2.700 hPa (20 °C)
Relative vapour density	:	No data available
Relative density	:	0,6 (20 °C) Reference substance: Water The value is calculated
Density	:	0,60 g/cm ³ (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	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	No data available

9.2 Other information

Sublimation point	:	No data available
Self-ignition	:	No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

No hazards to be specially mentioned.

SAFETY DATA SHEET

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



Klüberbio Z 2-5 Spray

Version	Revision Date:	Date of last issue: 08.10.2019	Print Date:
2.5	14.12.2020	Date of first issue: 09.02.2017	14.12.2020

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.

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:

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:

Remarks : Contact with eyes may cause irritation.

SAFETY DATA SHEET

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



Klüberbio Z 2-5 Spray

Version	Revision Date:	Date of last issue: 08.10.2019	Print Date:
2.5	14.12.2020	Date of first issue: 09.02.2017	14.12.2020

Respiratory or skin sensitisation

Product:

Remarks : This information is not available.

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.

SECTION 12: Ecological information

12.1 Toxicity

Product:

Toxicity to fish : Remarks: No data available

SAFETY DATA SHEET

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



Klüberbio Z 2-5 Spray

Version 2.5	Revision Date: 14.12.2020	Date of last issue: 08.10.2019 Date of first issue: 09.02.2017	Print Date: 14.12.2020
----------------	------------------------------	---	---------------------------

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:

isobutane:

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

propane:

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

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

SAFETY DATA SHEET

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



Klüberbio Z 2-5 Spray

Version 2.5	Revision Date: 14.12.2020	Date of last issue: 08.10.2019 Date of first issue: 09.02.2017	Print Date: 14.12.2020
----------------	------------------------------	---	---------------------------

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:

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

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

SAFETY DATA SHEET

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



Klüberbio Z 2-5 Spray

Version	Revision Date:	Date of last issue: 08.10.2019	Print Date:
2.5	14.12.2020	Date of first issue: 09.02.2017	14.12.2020

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
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

SAFETY DATA SHEET

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



Klüberbio Z 2-5 Spray

Version 2.5	Revision Date: 14.12.2020	Date of last issue: 08.10.2019 Date of first issue: 09.02.2017	Print Date: 14.12.2020
----------------	------------------------------	---	---------------------------

Environmentally hazardous : no

RID

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 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 (EU) 2019/1021 on persistent organic pollutants (recast) : 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

SAFETY DATA SHEET

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

KLÜBER
LUBRICATION

Klüberbio Z 2-5 Spray

Version 2.5	Revision Date: 14.12.2020	Date of last issue: 08.10.2019 Date of first issue: 09.02.2017	Print Date: 14.12.2020
----------------	------------------------------	---	---------------------------

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:
others: 0,26 %

Inorganic substances in powdered form:
Not applicable
Inorganic substances in vapour or gaseous form:
Not applicable
Organic Substances:
portion Class 1: < 0,01 %
others: 99,72 %

Carcinogenic substances:
portion Class 3: 0,02 %

Mutagenic:
others: 0,02 %

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: 98,78 %

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.

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

SAFETY DATA SHEET

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



Klüberbio Z 2-5 Spray

Version	Revision Date:	Date of last issue: 08.10.2019	Print Date:
2.5	14.12.2020	Date of first issue: 09.02.2017	14.12.2020

- Note U (table 3.1) : case the supplier must state on the label whether the substance is a specific isomer or a mixture of isomers.
- : 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

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

Classification procedure:

Based on product data or assessment

SAFETY DATA SHEET

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



Klüberbio Z 2-5 Spray

Version	Revision Date:	Date of last issue: 08.10.2019	Print Date:
2.5	14.12.2020	Date of first issue: 09.02.2017	14.12.2020

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