

1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

DRAKO-SOL

CAS number: -
EC number (EINECS/ELINCS): -
EC index number: -
REACH registration number: -

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

Identified uses of the substance or mixture: Lubricant, lubricants and release products

Not recommended uses of the substance or mixture: Other Process or activity:

1.3 Details of the supplier of the safety data sheet

Manufacturer / Supplier

PFEIFER DRAKO
Drahtseilwerk GmbH & Co. KG
Rheinstrasse 19-23
D 45478 Mülheim an der Ruhr

Telephone: +49 (0) 208 429 010
Fax: +49 (0) 208 429 01 66

Information contact

PFEIFER DRAKO Drahtseilwerk GmbH
& Co. KG

Information Telephone: +49 (0) 208 429 010

Information fax: +49 (0) 208 429 01 66

E-mail (competent person): info@drako.de

Website: http://www.drako.de/

1.4 Emergency telephone number

Informationszentrale gegen Vergiftungen Bonn

Telephone: +49 (0) 228 19 240 bzw. +49 (0) 228
287 332 11

Zentrum für Kinderheilkunde des Universität Bonn, Adenauerallee 119 D-53113 Bonn

1.5 Dept. responsible for information

PFEIFER DRAKO Drahtseilwerk GmbH & Co. KG

2. Hazards identification

2.1 Classification of the substance or mixture

Regulation (EC) No 1272/2008:

Flam. Aero. 1; H222 , Pres. Gas - Compr. or Liqu.; H280 , Aquatic Chronic. 3; H412

Directive 67/548/EEC:
F+; R12 , -; R52/53

2.2 Label elements

2.2.1 Labelling according to Regulation (EC) No 1272/2008

Hazard pictograms:



GHS02,GHS04
Signal word: Danger
H phrases: 222 Extremely flammable aerosol.
 280 Contains gas under pressure; may explode if heated.
 412 Harmful to aquatic life with long lasting effects.
P phrases: 210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
 211 Do not spray on an open flame or other ignition source.
 251 Pressurized container: Do not pierce or burn, even after use.
 273 Avoid release to the environment.
 410+403 Protect from sunlight. Store in a well-ventilated place.
 410+412 Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
 501 Dispose of contents/container according to official regulations.

2.2.2 Labelling according to Directive 67/548/EEC

Hazard symbols:



R phrases: F+ Extremely flammable.
 12 Extremely flammable.
 52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S phrases: 3 Keep in a cool place.
 9 Keep container in a well-ventilated place.
 16 Keep away from sources of ignition - No smoking.
 61 Avoid release to the environment. Refer to special instructions/Safety data sheets.

2.3 Other hazards

See attached safety data sheets and/or usage instructions.

3. Composition/information on ingredients

3.1 Chemical characterization of the substance or mixture

Mixture of short-chain hydrocarbons.

3.2 Composition of the substance or mixture

Substance:	EC-no.:	CAS-No.:	INDEX no.:	REACH-no.:	Concentration:	Classification: EC 1272/2008(CLP):	Classification: 67/548/EEC:
Butane	203-448-7	106-97-8	601-004-00-0		10 - 25 weight-%	Flam. Gas 1; H220	F+; R12
Propane	200-827-9	74-98-6	601-003-00-5		10 - 25 weight-%	Flam. Gas 1; H220	F+; R12

Hydrocarbons					2,5 - 10 weight-%	Asp. Tox. 1; H304 -; EUH066	Xn; R65 -; R66
Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts		68649-42-3			< 1 weight-%	Skin Corr. 1B; H314 Aquatic Chronic. 2; H411	Xi; R41 N; R51/53
Sulfonates					< 2,5 weight-%	Eye Irrit. 2; H319 STOT SE 3; H335 Skin Irrit. 2; H315	Xi; R36/37/38

Ingredients with EC exposure limits

Substance:	EC-no.:	CAS-No.:	INDEX no.:	REACH-no.:	Concentration:	Classification: EC 1272/2008(CLP):	Classification: 67/548/EEC:
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(The wording of the listed risk phrases is given in Chapter 16)

3.3 Additional information

none

4. First aid measures

4.1 Description of first aid measures

- General information:** In case of accident or if you feel unwell, seek medical advice immediately (show safety data sheet if possible).
- Following inhalation:** Move victim to fresh air. Put victim at rest and keep warm. In case of irregular breathing or respiratory arrest provide artificial respiration. Immediately get medical attention.
- After skin contact:** No special measures are necessary. In cases of frostbite rinse with ample water. Do not remove clothing. In case of skin irritation, seek medical treatment.
- Following eye contact:** In case of contact with eyes, rinse immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Subsequently consult an ophthalmologist.
- After ingestion:** Rinse mouth immediately and drink large quantities of water. Seek medical attention if problems persist.
- Self-protection:** No special measures are necessary.

4.2 Most important symptoms and effects, both acute and delayed

- Symptoms:** drowsiness. Disorientation. Headache. vomiting.
- Nature of Hazard:** Anaesthetic state. Depression of the central nervous system.

4.3 Indication of any immediate medical attention and special treatment needed

- Emergency aid:** Provide fresh air.
- Treatment:** Treat symptomatically.

5. Fire fighting measures

5.1 General information

Use water spray/stream to protect personnel and to cool endangered containers.

5.2 Extinguishing media

- Suitable:** Carbon dioxide (CO₂). Dry extinguishing powder.
- Unsuitable:** High power water jet.

5.3 Special hazards arising from the substance or mixture

Pyrolysis products, toxic. Vapours may form explosive mixtures with air. Danger of bursting container.

5.4 Advice for fire fighters

Special protective equipment for fire-fighters

In case of fire: Wear self-contained breathing apparatus.

Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Provide adequate ventilation. Remove all sources of ignition. Guide people to safety. Wear personal protection equipment.

6.2 Environmental precautions

Do not empty into drains or the aquatic environment. Do not allow to enter into soil/subsoil.

6.3 Methods and materials for containment and cleaning up

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).

Treat the assimilated material according to the section on waste disposal. Avoid generation of dust. Clear contaminated area thoroughly. Wash with generous amount of water.

6.4 References to other sections

See protective measures under point 7 and 8.

7. Handling and storage

7.1 Precautions for safe handling

Information for safe handling

Use only in well-ventilated areas. Keep away from sources of ignition - No smoking. Do not breathe gas/fumes/vapour/spray.

Technical measures

Provide for sufficient ventilation and punctiform suction at critical points.

Precautions against fire and explosion

Take precautionary measures against static discharges.

Additional information

Vapours may form explosive mixtures with air. Highly flammable. explosive

7.2 Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions

Ensure adequate ventilation of the storage area.

Packaging materials

Keep/Store only in original container.

Requirements for storerooms and containers

Keep in a cool, well-ventilated place. Do not keep the container sealed.

Information about storing together in storage facility

Keep away from food, drink and animal feedingstuffs.

Further information concerning storage conditions

Protect against: heat. UV-radiation/sunlight.

Storage class: 2 B Pressurized small gas containers (aerosol containers).**7.3 Specific end use(s)**

Observe instructions for use.

8. Exposure controls / personal protection**8.1 Control parameters****8.1.1 Limits for occupational exposure****Exposure limit values**

Substance:	CAS-No.:	Source:	Occupational exposure limit value:	Limitation of exposure peaks:	Remark:
Butane	106-97-8	TRGS 900 (butane 01/06)	1000 ppm or 1800 mg/m ³	4 (II)	DFG
Propane	74-98-6	TRGS 900 (propane 01/06)	1000 ppm or 2400 mg/m ³	4 (II)	DFG
Hydrocarbons		TRGS 900 (C9-C15 aliphatics 12/07)	600 mg/m ³	2 (II)	AGS

EC exposure limit values

Substance:	CAS-No.:	Source:	Occupational exposure limit value:	Limitation of exposure peaks:	Remark:

8.1.2 DNEL and PNEC values**DNEL-values**

Substance:	CAS-No.:	DNEL/DMEL	Industry	Professional	consumer

PNEC-values

Substance:	CAS-No.:	PNEC	Worker, industry	Worker, professional	consumer

8.1.3 Control-Banding**Control-Banding**

none

8.1.4 Additional information

AGS: Committee on Hazardous Substances

DFG: Senate Commission for the Investigation of Health Hazards DFG (MAK Commission)

8.2 Exposure controls**Occupational exposure controls**

Provide for sufficient ventilation and punctiform suction at critical points. Technical measures and the application of adequate working methods take priority over the use of personal protection equipment.

Chemical handling

Do not eat, drink, smoke or sneeze at the workplace. Wash hands before breaks and at the end of work. Apply skin care products after work. Wash contaminated clothing prior to re-use.

Personal protection equipment

Only wear fitting, comfortable and clean protective clothing.

Respiratory protection

Respiratory protection required in case of: insufficient ventilation. Suitable respiratory protective equipment: gas filtering equipment (EN 141).

Hand protection

Tested protective gloves are to be worn: German Industry Norms (DIN) / European Norms (EN): DIN EN 374

Eye protection

Tightly sealed safety glasses.

Skin protection

For the protection against direct skin contact, body protective clothing is essential (in addition to the usual working clothes). Only wear fitting, comfortable and clean protective clothing. Barrier creams are not substitutes for body protection.

Environmental exposure controls

refer to chapter 7. No further action is necessary.

Consumer exposure controls

refer to chapter 7. No further action is necessary.

8.3 Exposure scenario

none

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

State of matter: Aerosol
Colour: light brown
Odour: characteristic like: hydrocarbons.
Odour threshold: No data available

Safety relevant basis data

	Parameter	Value	Unit	Remark
Density:	at 15 °C:	0,897	g/cm ³	(Liquid)
Package density:				not applicable
pH:				not applicable
Melting point / range:				No data available
Boiling temperature / range:		-44	°C	
Flash point:		-97	°C	
Flammability:				No data available
Lower flammability limit:				No data available
Upper flammability limit:				No data available
Explosion hazard:				Explosive.
Lower explosion limit:		1,5	Vol-%	
Upper explosion limit:		10,9	Vol-%	
Ignition temperature:				No data available
Decomposition temperature:				No data available
Oxidizing characteristics:				No data available
Vapour pressure:	at 20 °C:	8300	hPa	
Relative vapour density:				No data available
Speed of vaporization/evaporation rate:				No data available
Solubility in water:				practically insoluble
Fat solubility:				No data available
Solubility in	:			not applicable

log P O/W (n-octanol / water):			No data available
Viscosity:	at 40 °C:	57,0 mm ² /s	Viscosity, kinematic:
Solvent separation test:			No data available
Solvent content:		40,0 %	not applicable

9.2 Other information

none

10. Stability and reactivity

10.1 Reactivity

none

10.2 Chemical stability

none

10.3 Possibility of hazardous reactions

none

10.4 Conditions to avoid

heat. Light.

10.5 Incompatible materials

Oxidizing agents. Reducing agents.

10.6 Hazardous decomposition products

Pyrolysis products, toxic.

10.7 Additional information

none

11. Toxicological information

11.1 Information on toxicological effects

There are no data available on the mixture itself.

Acute toxicity

Substance:	CAS-No.:	Toxicological information
Butane	106-97-8	Acute toxicity, inhalant LC50: 658 mg/l/4 h (Rat.)
Hydrocarbons		Acute toxicity, oral LD50: > 5000 mg/kg (Rat.) Acute toxicity, dermal LD50: > 3160 mg/kg (Rabbit.) Acute toxicity, inhalant LC50: > 12 mg/l/4 h (Rat.)
Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts	68649-42-3	Acute toxicity, oral LD50: 4358 mg/kg (Rat.)

Specific symptoms in laboratory animals

none

11.2 Irritation and etching

Irritant effect on the skin

Not an irritant.

Irritant effect on the eye

Not an irritant.

Irritant effect on the respiratory tract

Not an irritant.

Etching

not corrosive

11.3 Sensitization

no danger of sensitization.

11.4 Repeated dose toxicity

No information available.

11.5 CMR effects**Carcinogenicity**

No indications of human carcinogenicity exist.

Mutagenicity

No indications of human germ cell mutagenicity exist.

Reproductive toxicity

No indications of human reproductive toxicity exist.

11.6 General remarks

There are no data available on the preparation/mixture itself.

Practical experience

none

Other observations

none

Additional information

none

12. Ecological information**12.1 Toxicity**

There are no data available on the mixture itself.

Eco toxicity

Substance:	CAS-No.:	Ecotoxicity
Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts	68649-42-3	Acute toxicity EC50: 1-10 mg/kg [Daphnia magna].

12.2 Persistence and degradability

Not easily bio-degradable (according to OECD-criteria).

12.3 Bio accumulative potential

There are no data available on the mixture itself.

12.4 Mobility in soil

There are no data available on the mixture itself.

12.5 Results of PBT and vPvB assessment

There are no data available on the mixture itself.

12.6 Other adverse effects

No information available.

12.7 Further ecological information

Do not empty into drains or the aquatic environment. Do not allow to enter into soil/subsoil.

12.8 Further details

none

13. Disposal considerations

13.1 Waste treatment methods

Appropriate disposal/Product

Waste disposal according to EC Directives 75/442/EEC and 91/689/EEC on waste and hazardous waste in their latest versions.

Appropriate disposal/ packaging

Cleaned containers may be recycled. Handle contaminated packaging in the same way as the substance itself.

Control report for waste code/ waste marking according to EAKV

According to EAKV, allocation of waste identity numbers/waste descriptions must be carried out in a specific way for every industry and process.

Waste key product: 14 06 03 - other solvents and solvent mixtures

Waste key packaging: 15 01 10 - packaging containing residues of or contaminated by dangerous substances

Remark

Waste disposal according to official state regulations.

14. Transport information

14.1 Overland transport (ADR/RID)

Proper Shipping name

AEROSOLS, FLAMMABLE

DRAKO-SOL

UN No.: 1950

Label: 2.1

Packing Group: -

Classification code: 5F

Remark: Special provisions: 190, 327, 625

Limited quantity (LQ): LQ2/E0

Tunnel restriction code: 2 (D)

14.2 Transport by sea (IMDG)

Proper Shipping name

AEROSOLS, FLAMMABLE

DRAKO-SOL

UN-No.: 1950

Label: 2.1

Packing Group: -

Marine pollutant: No

EmS-No.: -

MFAG: -

Special Provisions: Keep away from food, drink and animal feedingstuffs.

Remark: Limited quantity (LQ): LQ2/E0

14.3 Air transport (ICAO-TI / IATA-DGR)

Proper Shipping name

AEROSOLS, FLAMMABLE

DRAKO-SOL
UN/ID-No.: 1950
Label: 2.1 **Packing Group:** -
Remark: Limited quantity (LQ): LQ2/E0

14.4 Mail

See Land Transport.

15. Regulatory information

15.1 Labelling

Hazardous component(s) for labelling

Butane; Propane; Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts

Special labelling of particular preparations

none

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

EU-Regulations

Directive 1999/13/EC on the limitation of emissions of volatile organic compounds (VOC-RL)

Volatile organic compounds (VOC) in percentage by weight:

Regulation (EC) No 2037/2000 on substances that deplete the ozone layer

none

Regulation (EC) No 850/2004 on persistent organic pollutants

none

Regulation (EC) No 689/2008 concerning the export and import of dangerous chemicals

none

Regulation (EC) No 648/2004 (Detergents regulation)

none

Restrictions under Title VIII of Regulation (EC) No 1907/2006

none

National regulations

Moreover, national legislation has to be observed!

Informations on working limitations

none

Major Accidents Ordinance

none

Storage class according to VCI

2 B Pressurized small gas containers (aerosol containers).

Water Hazard Class according to VwVwS

1 weak water pollutant (WGK 1)

Technical Instructions on Air Quality Control (TA-Luft)

none

Further regulations, limitations and legal requirements

none

15.3 Chemical safety assessment

For this preparation a chemical safety assessment has been carried out: -
Chemical safety assessments for substances in this mixture were not carried out.

16. Other information

16.1 Wording of the H and R-phrases under paragraph 3

Regulation (EC) No 1272/2008

EU_066 Repeated exposure may cause skin dryness or cracking.
220 Extremely flammable gas.
304 May be fatal if swallowed and enters airways.
314 Causes severe skin burns and eye damage.
315 Causes skin irritation.
319 Causes serious eye irritation.
335 May cause respiratory irritation.
411 Toxic to aquatic life with long lasting effects.

Directive 67/548/EEC

12 Extremely flammable.
36/37/38 Irritating to eyes, respiratory system and skin.
41 Risk of serious damage to eyes.
51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
65 Harmful: may cause lung damage if swallowed.
66 Repeated exposure may cause skin dryness or cracking.

16.2 Training instructions

none

16.3 Recommended restrictions of use

refer to chapter 1.

16.4 Further remarks

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

16.5 Documentation of changes

none

16.6 Data sources

Data arise from reference works and literature.

16.7 Key and definition

none

17. Appendix

17.1 Exposure scenario

