

DK-DOX® Fertiglösung (sf)

Safety Data Sheet

according to Regulation (EU) 2020/878

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

1.1. Product identifier

Product form : Mixture
Product name : DK-DOX® Fertiglösung (sf)
DK-DOX® 150 (sf), DK-DOX® 200 (sf), DK-DOX® 1500 (sf), DK-DOX® AKTIV BASIC (sf), DK-DOX® AKTIV MOBIL (sf), DK-DOX® FRESH (sf), DK-DOX® SURFACE (sf), DK-DOX® Chlordioxidlösung < 0,3% (sf)
Other names : E 926, Chlorine(IV) oxide
UFI : M500-C029-G00E-DYAE

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

1.2.1. Relevant identified uses

Main use category : Industrial use. Professional use. General public.
Use of the substance/mixture : Disinfectants

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Manufacturer/Supplier

Dr. Kúke GmbH
Langer Acker 33
30900 Wedemark - Germany
T +49 (0) 5130 97196-0
info@kueke.de - www.kueke.de

Safety Data Sheet: DLAC Dienstleistungsagentur Chemie GmbH, E-mail: sds@dlac-gmbh.de

1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number
Germany	Giftinformationszentrum (GIZ-Nord) Universitätsmedizin Göttingen - Georg-August-Universität	Robert-Koch Strasse 40 D-37075 Göttingen	+49 551 19240 (German/English)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

Adverse physicochemical, human health and environmental effects

To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

EUH phrases : EUH210 - Safety data sheet available on request

2.3. Other hazards

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Chlorine dioxide ... %	(CAS no) 10049-04-4 (EC no) 233-162-8 (EC index no) 017-026-01-0 (REACH no) 01-2119492305-37-xxxx	< 0.3	Acute Tox. 3 (Oral), H301 Skin Corr. 1B, H314 Aquatic Acute 1, H400 (M=10)

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Name	Product identifier	Specific concentration limits according to Regulation (EC) No. 1272/2008 [CLP]
Chlorine dioxide ... %	(CAS no) 10049-04-4 (EC no) 233-162-8 (EC index no) 017-026-01-0 (REACH no) 01-2119492305-37-xxxx	(0.3 ≤ C < 3) Eye Irrit. 2, H319 (1 ≤ C < 5) Skin Irrit. 2, H315 (3 ≤ C < 5) Eye Dam. 1, H318 (C ≥ 3) STOT SE 3, H335 (C ≥ 5) Skin Corr. 1B, H314

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures general : Get medical advice/attention if you feel unwell. If possible show him this sheet. Failing this, show him the packaging or label. Never give anything by mouth to an unconscious person. Place the affected person in the recovery position. Evacuate personnel to a safe area. Do not leave affected person unattended.
- First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- First-aid measures after skin contact : Remove/Take off immediately all contaminated clothing. Wash with plenty of soap and water.
- First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- First-aid measures after ingestion : Rinse mouth. Drink plenty of water as a precaution. Do NOT induce vomiting.

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

- Symptoms/injuries : Not expected to present a significant hazard under anticipated conditions of normal use.

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

Treat symptomatically. IF SWALLOWED: gastric lavage. Treat as a burn.

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Use extinguishing agents that suit the environment. Water spray.
- Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

- Fire hazard : Heating will cause a rise in pressure with a risk of bursting.
- Hazardous decomposition products in case of fire : Chlorine. Chlorine dioxide. Oxygen.

5.3. Advice for firefighters

- Precautionary measures fire : In case of fire and/or explosion do not breathe fumes. Move containers away from the fire area if this can be done without risk.
- Firefighting instructions : Use water spray or fog for cooling exposed containers. Prevent fire-fighting water from entering environment.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Provide adequate ventilation.

6.1.1. For non-emergency personnel

- Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

- Protective equipment : Use personal protective equipment as required. Use self-contained breathing apparatus.

6.2. Environmental precautions

Prevent liquid from entering sewers, watercourses, underground or low areas. Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Wipe up with absorbent material (for example cloth). Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Keep in suitable, closed containers for disposal. Dispose of in accordance with relevant local regulations. Use neutralisation products.

6.4. Reference to other sections

Concerning personal protective equipment to use, see section 8. Concerning disposal elimination after cleaning, see section 13. Concerning conditions for handling and storage, see section 7.

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Provide adequate ventilation. Do not breathe gas/vapour/aerosol. Avoid contact with skin and eyes. Keep container tightly closed. Protect from heat and direct sunlight. Avoid letting the product become dry. Wear personal protective equipment.
- Hygiene measures : Handle in accordance with good industrial hygiene and safety procedures. When using do not eat, drink or smoke. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Take off contaminated clothing and wash it before reuse.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Store in original container. Store in a dry, cool and well-ventilated place. Keep container tightly closed. Protect from heat and direct sunlight. Protect against frost.
- Information on mixed storage : Keep away from food, drink and animal feedingstuffs. Store separated from acids, reducing agents, sulfur compounds, combustible materials.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Chlorine (7782-50-5)		
EU	Local name	Chlorine
EU	IOELV STEL (mg/m ³)	1.5 mg/m ³
EU	IOELV STEL (ppm)	0.5 ppm
Ireland	Local name	Chlorine
Ireland	OEL (15 min ref) (mg/m ³)	1.5 mg/m ³
Ireland	OEL (15 min ref) (ppm)	0.5 ppm
Ireland	Notes (IE)	IOELV
Malta	Local name	Chlorine
Malta	OEL STEL (mg/m ³)	1.5 mg/m ³
Malta	OEL STEL (ppm)	0.5 ppm

Chlorine dioxide ... % (10049-04-4)		
Ireland	Local name	Chlorine dioxide
Ireland	OEL (15 min ref) (ppm)	0.1 ppm

Chlorine dioxide ... % (10049-04-4)		
DNEL/DMEL (Workers)		
Long-term - local effects, inhalation	0.304 mg/m ³	
PNEC (Water)		
PNEC aqua (freshwater)	0.000021 mg/l	
PNEC aqua (marine water)	0.000021 mg/l	
PNEC aqua (intermittent, freshwater)	0.0002 mg/l	
PNEC (STP)		
PNEC sewage treatment plant	0.1 mg/l	

8.2. Exposure controls

Appropriate engineering controls:

Provide local exhaust or general room ventilation to minimize vapour concentrations.

Hand protection:

Avoid skin contact. Wear suitable gloves. (EN 374). PVC. Polyethylene. 0.5 mm. The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection:

Avoid contact with eyes. Chemical goggles or safety glasses (EN 166).

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

No respiratory protection needed under normal use conditions. If the occupational exposure limit is exceeded: Gas mask with filter type B. (EN 14387)

Environmental exposure controls:

Avoid release to the environment.

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Yellowish
Odour	: Slightly pungent; Odour threshold: ≈ 0.1 ppm
Melting point/freezing point	: 0 °C
Boiling point or initial boiling point and boiling range	: 100 °C
Flammability	: No data available
Lower and upper explosion limit	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: > 45 °C
pH	: 7 (on production, the pH value drops to pH > 2 - < 7 over the storage period)
Kinematic viscosity	: No data available
Solubility	: Water: completely miscible
Partition coefficient n-octanol/water (log value)	: Not applicable
Vapour pressure	: ≈ 14 mbar (20 °C)
Density and/or relative density	: 1 g/cm ³ (20 °C)
Relative vapour density	: No data available
Particle characteristics	: Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Explosive properties	: Product is not explosive.
Oxidising properties	: Product is not oxidising.

9.2.2. Other safety characteristics

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known under normal conditions of use.

10.2. Chemical stability

Stable under use and storage conditions as recommended in section 7.

10.3. Possibility of hazardous reactions

Contact with acids liberates toxic gas.

10.4. Conditions to avoid

High temperature. Overheating. Protect from sunlight.

10.5. Incompatible materials

Strong acids. Reducing agents. Metals and metallic salts.

10.6. Hazardous decomposition products

Chlorine. Chlorine dioxide. Oxygen.

SECTION 11: Toxicological information

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

Acute toxicity	: Not classified
	Based on available data, the classification criteria are not met

Chlorine dioxide ... % (10049-04-4)

LC50 inhalation rat	32 ppmv/4h (chlorine dioxide)
Skin corrosion/irritation	: Not classified
	Based on available data, the classification criteria are not met
Serious eye damage/irritation	: Not classified
	Based on available data, the classification criteria are not met
Respiratory or skin sensitisation	: Not classified
	Based on available data, the classification criteria are not met

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Germ cell mutagenicity	: Not classified Based on available data, the classification criteria are not met
Carcinogenicity	: Not classified Based on available data, the classification criteria are not met
Reproductive toxicity	: Not classified Based on available data, the classification criteria are not met
Specific target organ toxicity (single exposure)	: Not classified Based on available data, the classification criteria are not met
Specific target organ toxicity (repeated exposure)	: Not classified Based on available data, the classification criteria are not met
Aspiration hazard	: Not classified Based on available data, the classification criteria are not met

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Endocrine disruption for human health : The mixture has no endocrine disrupting properties.

11.2.2. Other information

Potential adverse human health effects and symptoms : Based on available data, the classification criteria are not met

SECTION 12: Ecological information

12.1. Toxicity

Acute aquatic toxicity : Not classified
Chronic aquatic toxicity : Not classified

Chlorine dioxide ... % (10049-04-4)	
LC50 fish	0.021 mg/l 96 h, Danio rerio
EC50 daphnia	0.063 mg/l 48 h, Daphnia magna
EC50 algae	1.096 mg/l 72 h, Raphidocelis subcapitata
NOEC daphnia	0.015 mg/l 22 d, Daphnia magna
NOEC algae	0.02 mg/l 72 h, Raphidocelis subcapitata
EC50 microorganisms	10.7 mg/l 3 h, activated sludge (OECD 209)

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

12.6. Endocrine disrupting properties

Endocrine disruption for the environment : The substance/mixture has no endocrine disrupting properties.

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste) : Dispose in a safe manner in accordance with local/national regulations.
Waste treatment methods : Do not dispose of with domestic waste. Do not empty into drains. Avoid letting the product become dry.
Product/Packaging disposal recommendations : When totally empty, containers are recyclable like any other packing.
European List of Waste (LoW) code : 15 00 00 - WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED
15 01 00 - packaging (including separately collected municipal packaging waste)
15 01 10* - packaging containing residues of or contaminated by dangerous substances
06 00 00 - WASTES FROM INORGANIC CHEMICAL PROCESSES
06 13 00 - wastes from inorganic chemical processes not otherwise specified
06 13 01* - inorganic plant protection products, wood-preserving agents and other biocides
18 01 06* - chemicals consisting of or containing dangerous substances

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Waste code number : The valid EWC waste code numbers are source related. The manufacturer is therefore unable to specify EWC waste codes for the articles or products used in the various sectors. The EWC codes listed are intended as a recommendation for users.

SECTION 14: Transport information

In accordance with IATA / IMDG / ADR

14.1. UN number or ID number

UN-No. (ADR) : Not applicable
UN-No. (IMDG) : Not applicable
UN-No. (IATA) : Not applicable

14.2. UN proper shipping name

Proper Shipping Name (ADR) : Not applicable
Proper Shipping Name (IMDG) : Not applicable
Proper Shipping Name (IATA) : Not applicable

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : Not applicable

IMDG

Transport hazard class(es) (IMDG) : Not applicable

IATA

Transport hazard class(es) (IATA) : Not applicable

14.4. Packing group

Packing group (ADR) : Not applicable
Packing group (IMDG) : Not applicable
Packing group (IATA) : Not applicable

14.5. Environmental hazards

Dangerous for the environment : No
Marine pollutant : No
Other information : No supplementary information available

14.6. Special precautions for user

- Overland transport

Not applicable

- Transport by sea

Not applicable

- Air transport

Not applicable

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Contains no substance on the REACH candidate list
Contains no REACH Annex XIV substances

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out

SECTION 16: Other information

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

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Changes compared to the previous version : Section 9.1

Classification and procedure used to derive the classification of mixtures according to Regulation (EC) No. 1272/2008 [CLP]:

Not classified	Calculation method
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Abbreviations and acronyms:

ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DMEL	Derived Minimal Effect Level
DNEL	Derived No-Effect Level
EC50	The effective concentration of substance that causes 50% of the maximum response (Median Effective Concentration)
IATA	International Air Transport Association
IMDG	"International Maritime Dangerous Goods Code" for the transport of dangerous goods by sea
LC50	Lethal Concentration to 50 % of a test population (Median Lethal Concentration)
LD50	Lethal Dose to 50% of a test population (Median Lethal Dose)
NOEC/L	No Observed Effect Concentration/Level
OECD	Organisation for Economic Cooperation and Development
PBT	Persistent, Bioaccumulative and Toxic substance
PNEC	Predicted No-Effect Concentration
REACH	Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals
SDS	Safety Data Sheet
STP	Sewage Treatment Plant
UFI	Unique Formula Identifier
vPvB	Very Persistent and Very Bioaccumulative

Full text of H- and EUH-statements:

Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT SE 3	Specific target organ toxicity - Single exposure, Category 3, Respiratory tract irritation
H301	Toxic if swallowed
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H318	Causes serious eye damage
H319	Causes serious eye irritation
H335	May cause respiratory irritation
H400	Very toxic to aquatic life
EUH210	Safety data sheet available on request

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.