

DK-DOX[®] 150

Safety Data Sheet

according to Regulation (EU) No. 2015/830

Date of issue: 21.06.2017

Revision date: 08.02.2019

Version: 1.2

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

1.1. Product identifier

Product form : Mixture
 Trade name : DK-DOX[®] 150
 Other names : E 926, Chlorine(IV) oxide

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

1.2.1. Relevant identified uses

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

Dr. Küke GmbH
 Schaumburger Straße 11
 30900 Wedemark
 T +49 (0) 5130 3766163
info@kueke.de - www.dk-dox.de

Supplier

DKL Chairs GmbH
 An der Ziegelei 1,3
 37124 Rosdorf
 T +49 (0) 55150060
info@dkl.de - www.dkl.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

No additional information available

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

No additional information available

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	0.01 – 0.02	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	(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 : Remove from exposure, if possible in fresh air and lie down the victim. Get medical advice/attention if you feel unwell. Remove contaminated clothing.
- First-aid measures after inhalation : Allow breathing of fresh air. Move the affected person to the fresh air. Make the affected person rest and keep at warm. Get medical advice/attention.
- First-aid measures after skin contact : Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.
- First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
- First-aid measures after ingestion : Rinse mouth. Drink plenty of water as a precaution. Do NOT induce vomiting. If you feel unwell, seek medical advice.

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

- Symptoms/injuries : Under normal conditions of use, no adverse effects to health have been observed.

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 : Water.
- 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. Oxygen.

5.3. Advice for firefighters

- Precautionary measures fire : 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 : Evacuate unnecessary personnel.
- 6.1.1. For non-emergency personnel
Emergency procedures : Only qualified personnel equipped with suitable protective equipment may intervene.

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 : 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.

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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.
- 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. Separated from: Acids, Reducing agents, Sulfur compounds, Combustible materials, Metals

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Chlorine dioxide ... % (10049-04-4)		
Ireland	Local name	Chlorine dioxide
Ireland	OEL (8 hours ref) (mg/m ³)	0.3 mg/m ³
Ireland	OEL (8 hours ref) (ppm)	0.1 ppm
Ireland	OEL (15 min ref) (mg/m ³)	0.9 mg/m ³
Ireland	OEL (15 min ref) (ppm)	0.3 ppm
United Kingdom	Local name	Chlorine dioxide
United Kingdom	WEL TWA (mg/m ³)	0.28 mg/m ³
United Kingdom	WEL TWA (ppm)	0.1 ppm
United Kingdom	WEL STEL (mg/m ³)	0.84 mg/m ³
United Kingdom	WEL STEL (ppm)	0.3 ppm

Chlorine (7782-50-5)		
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
United Kingdom	Local name	Chlorine
United Kingdom	WEL STEL (mg/m ³)	1.5 mg/m ³
United Kingdom	WEL STEL (ppm)	0.5 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	0.01 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 gloves. 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.

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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. (DIN EN 141)

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	: Liquid. Yellowish
Odour	: Slight pungent
Odour threshold	: ≈ 0.1 ppm
pH	: 7
Melting point/Freezing point	: 0 °C
Initial boiling point and boiling range	: 100 °C
Flash point	: Not applicable
Evaporation rate	: No data available
Flammability (solid, gas)	: Not applicable
Upper/lower flammability or explosive limits	: No data available
Vapour pressure	: ≈ 14 mbar (20 °C)
Vapour density	: No data available
Density	: 1 g/cm ³ (20 °C)
Solubility(ies)	: Water: completely miscible
Partition coefficient: n-octanol/water	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: > 45 °C
Viscosity	: 2.4 mPa.s (20 °C) (dynamic)
Explosive properties	: Product is not explosive.
Oxidising properties	: No data available

9.2. Other information

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. Oxygen.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Chlorine dioxide ... % (10049-04-4)	
LD50 oral rat	93.86 mg/kg (0.2 % chlorine dioxide solution)
LC50 inhalation rat	32 ppmv/4h (chlorine dioxide)

Skin corrosion/irritation : Not classified

Additional information : Based on available data, the classification criteria are not met

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Serious eye damage/irritation	:	Not classified
Additional information	:	Based on available data, the classification criteria are not met
Respiratory or skin sensitisation	:	Not classified
Additional information	:	Based on available data, the classification criteria are not met
Germ cell mutagenicity	:	Not classified
Additional information	:	Based on available data, the classification criteria are not met
Carcinogenicity	:	Not classified
Additional information	:	Based on available data, the classification criteria are not met
Reproductive toxicity	:	Not classified
Additional information	:	Based on available data, the classification criteria are not met
Specific target organ toxicity (single exposure)	:	Not classified
Additional information	:	Based on available data, the classification criteria are not met
Specific target organ toxicity (repeated exposure)	:	Not classified
Additional information	:	Based on available data, the classification criteria are not met
Aspiration hazard	:	Not classified
Additional information	:	Based on available data, the classification criteria are not met

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Viscosity, kinematic	2.4 mm ² /s
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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, Brachydanio rerio
EC50 daphnia	0.063 mg/l 48 h, Daphnia magna
ErC50 algae	1.096 mg/l 72 h, Selenastrum capricornutum
NOEC crustacea	0.015 mg/l 22 d, Daphnia magna
NOEC algae	0.02 mg/l 72 d, Selenastrum capricornutum
EC50 microorganisms	10.7 mg/l 3 h, activated sludge (OECD 209)

12.2. Persistence and degradability

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Persistence and degradability	Product is biodegradable.
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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. 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.
Additional information	:	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.
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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SECTION 14: Transport information

In accordance with IATA / IMDG / ADR

14.1. UN 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. Transport in bulk according to Annex II of MARPOL and the IBC Code

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 substances with Annex XVII restrictions
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.
Changes compared to the previous version : Section 8.1: Control parameters
Section 12.1: Toxicity

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Abbreviations and acronyms:

ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
EC50	Median effective concentration
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
PBT	Persistent Bioaccumulative Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
SDS	Safety data sheet
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

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.