



# Dioxan-(1,4) a.r.

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878  
Issue date: 3/17/2023 Version: 1.1

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

#### 1.1. Product identifier

Product form	: Substance
Trade name	: Dioxan-(1,4) a.r.
EC Index-No.	: 603-024-00-5
EC-No.	: 204-661-8
CAS-No.	: 123-91-1
REACH registration No.	: 01-2119462837-26
Product code	: CL00.0406
Type of product	: Pure substance
Formula	: C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>
Synonyms	: [1,4]dioxane / 1,4-diethylene dioxide / 1,4-diethylene oxide / 1,4-dioxacyclohexane / 1,4-dioxane / 1,4-dioxane, anhydrous / 1,4-dioxin, tetrahydro- / di(ethylene oxide) / diethylene dioxide / diethylene ether / diethylene oxide / diethylene-1,4-dioxide / diokan / diox / dioxane-1,4 / dioxyethylene ether / glycol ethylene ether / para-dioxane / para-dioxin / para-dioxin, tetrahydro / p-dioxane / p-dioxin / p-dioxin, tetrahydro / tetrahydro-1,4-dioxin / tetrahydro-para-dioxin / tetrahydro-p-dioxin / tetramethyl-1,4-oxide
BIG No	: 10200

#### 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 : Laboratory chemical

##### 1.2.2. Uses advised against

No additional information available

#### 1.3. Details of the supplier of the safety data sheet

Chem-Lab nv  
Industriezone 'De arend 2'  
Zedelgem – Belgium  
Belgium  
T +32 50 288320  
[info@chem-lab.be](mailto:info@chem-lab.be) - <https://www.chem-lab.be>

#### 1.4. Emergency telephone number

Emergency number : +32 50 28 83 20

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

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

Flammable liquids, Category 2	H225
Carcinogenicity, Category 2	H351
Serious eye damage/eye irritation, Category 2	H319
Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation	H335

Full text of H- and EUH-statements: see section 16

##### Adverse physicochemical, human health and environmental effects

No additional information available

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### 2.2. Label elements

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

Hazard pictograms (CLP) :



GHS02

GHS08

GHS07

Signal word (CLP) :

Danger

Hazard statements (CLP) :

H225 - Highly flammable liquid and vapour.

H351 - Suspected of causing cancer.

H319 - Causes serious eye irritation.

H335 - May cause respiratory irritation.

Precautionary statements (CLP) :

P210 - Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

P281 - Use personal protective equipment as required.

P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308+P313 - IF exposed or concerned: Get medical advice/attention.

EUH-statements

: EUH019 - May form explosive peroxides.

EUH066 - Repeated exposure may cause skin dryness or cracking.

### 2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

The substance is not 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

Substance type

: Mono-constituent

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Dioxan-(1,4) a.r. substance listed as REACH Candidate (1,4-dioxane)	CAS-No.: 123-91-1 EC-No.: 204-661-8 EC Index-No.: 603-024-00-5 REACH-no: 01-2119462837-26	100	Flam. Liq. 2, H225 Carc. 2, H351 Eye Irrit. 2, H319 STOT SE 3, H335 EUH019, EUH066

Full text of H- and EUH-statements: see section 16

### 3.2. Mixtures

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general

: Observe (own) safety. If possible, approach victim and check vital functions. In case of injury and/or intoxication, call the European emergency number 112. Treat symptoms starting with most life-threatening injuries and disorders. Keep victim under observation, possibility of delayed symptoms.

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First-aid measures after inhalation	: Remove victim into fresh air. In case of respiratory problems, consult a doctor/medical service.
First-aid measures after skin contact	: If possible, wipe up/dry remove chemical. Then rinse/shower immediately with (lukewarm) water. If irritation persists, consult a doctor/medical service.
First-aid measures after eye contact	: Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation persists, consult a doctor/medical service.
First-aid measures after ingestion	: Rinse mouth with water. If you feel unwell, consult a doctor/medical service. Do not wait for symptoms to occur to consult Poison Center.

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

Symptoms/effects after inhalation	: Irritation of the respiratory tract. Irritation of the nasal mucous membranes. EXPOSURE TO HIGH CONCENTRATIONS: Nausea. Headache. Vomiting. Dizziness. Coughing. Disturbances of consciousness. Central nervous system depression. Coordination disorders. Drunkenness.
Symptoms/effects after skin contact	: ON CONTINUOUS EXPOSURE/CONTACT: Dry skin. Cracking of the skin.
Symptoms/effects after eye contact	: Irritation of the eye tissue. Redness of the eye tissue.
Symptoms/effects after ingestion	: Risk of aspiration pneumonia. Abdominal pain. Symptoms similar to those listed under inhalation.
Chronic symptoms	: Red skin. Dry skin. Itching. Gastrointestinal complaints. Loss of appetite. Enlargement/affection of the liver. Affection of the renal tissue.

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

No additional information available

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media	: Quick-acting ABC powder extinguisher. Quick-acting BC powder extinguisher. Quick-acting class B foam extinguisher. Quick-acting CO2 extinguisher. Class B foam (alcohol-resistant). Water spray if puddle cannot expand.
Unsuitable extinguishing media	: Water (quick-acting extinguisher, reel); risk of puddle expansion. Water; risk of puddle expansion.

### 5.2. Special hazards arising from the substance or mixture

Fire hazard	: DIRECT FIRE HAZARD: Highly flammable liquid and vapour. Gas/vapour flammable with air within explosion limits. INDIRECT FIRE HAZARD: May be ignited by sparks. May build up electrostatic charges: risk of ignition.
Explosion hazard	: DIRECT EXPLOSION HAZARD: Gas/vapour explosive with air within explosion limits. INDIRECT EXPLOSION HAZARD: may be ignited by sparks. May form explosive peroxides. Reactions with explosion hazards: see "Reactivity Hazard".
Hazardous decomposition products in case of fire	: Upon combustion: CO and CO2 are formed.

### 5.3. Advice for firefighters

Firefighting instructions	: Cool tanks/drums with water spray/remove them into safety. Do not move the load if exposed to heat.
Protection during firefighting	: Heat/fire exposure: self-contained breathing apparatus (EN 136 + EN 137).

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

Protective equipment	: Gloves (EN 374). Protective goggles (EN 166). Protective clothing (EN 14605 or EN 13034). Large spills/in enclosed spaces: self-contained breathing apparatus (EN 136 + EN 137).
Emergency procedures	: Keep upwind. Mark the danger area. Consider evacuation. Close doors and windows of adjacent premises. Stop engines and no smoking. No naked flames or sparks. Spark- and explosionproof appliances and lighting equipment. Keep containers closed. Protect substance against light. Wash contaminated clothes.

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### 6.1.2. For emergency responders

No additional information available

### 6.2. Environmental precautions

Prevent spreading in sewers.

### 6.3. Methods and material for containment and cleaning up

- For containment : Contain released product, collect/pump into suitable containers. Plug the leak, cut off the supply. Dam up the liquid spill. Try to reduce evaporation. Measure the concentration of the explosive gas-air mixture. Dilute/disperse combustible gas/vapour with water curtain. Provide equipment/receptacles with earthing. Do not use compressed air for pumping over spills.
- Methods for cleaning up : Take up liquid spill into a non combustible material e.g.: sand, earth, vermiculite, kieselguhr, powdered limestone. Scoop absorbed substance into closing containers. Carefully collect the spill/leftovers. Damaged/cooled tanks must be emptied. Do not use compressed air for pumping over spills. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

### 6.4. Reference to other sections

No additional information available

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

- Precautions for safe handling : Use spark-/explosionproof appliances and lighting system. Take precautions against electrostatic charges. Keep away from naked flames/heat. Keep away from ignition sources/sparks. Measure the concentration in the air regularly. Work under local exhaust/ventilation. Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Before use: check for peroxides and eliminate them. Handle and open the container with care. Cool before opening. Keep container tightly closed. Handle uncleaned empty containers as full ones. Do not discharge the waste into the drain. Do not use compressed air for pumping over.
- Hygiene measures : Observe strict hygiene.

### 7.2. Conditions for safe storage, including any incompatibilities

- Maximum storage period : 6 - 24 month(s)
- Storage temperature : > 13 °C
- Heat and ignition sources : KEEP SUBSTANCE AWAY FROM: heat sources. ignition sources.
- Information on mixed storage : KEEP SUBSTANCE AWAY FROM: combustible materials. oxidizing agents. (strong) acids. (strong) bases. water/moisture.
- Storage area : Meet the legal requirements. Store in a cool area. Store in a dry area. Store in a dark area. Keep container in a well-ventilated place. Fireproof storeroom. Store only in a limited quantity. Provide for a tub to collect spills. Provide the tank with earthing. Protect against frost. May be stored under nitrogen. Store only in a stabilised state.
- Special rules on packaging : SPECIAL REQUIREMENTS: closing. opaque. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.
- Packaging materials : SUITABLE MATERIAL: steel. stainless steel. carbon steel. aluminium. iron. copper. nickel. bronze. glass. tin. MATERIAL TO AVOID: synthetic material.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### 8.1.1 National occupational exposure and biological limit values

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<b>Dioxan-(1,4) a.r. (123-91-1)</b>	
<b>EU - Indicative Occupational Exposure Limit (IOEL)</b>	
IOEL TWA	73 mg/m <sup>3</sup>
IOEL TWA [ppm]	20 ppm
<b>Belgium - Occupational Exposure Limits</b>	
OEL TWA	73 mg/m <sup>3</sup>
OEL TWA [ppm]	20 ppm
<b>France - Occupational Exposure Limits</b>	
VME (OEL TWA)	73 mg/m <sup>3</sup>
VME (OEL TWA) [ppm]	20 ppm
VLE (OEL C/STEL)	140 mg/m <sup>3</sup>
VLE (OEL C/STEL) [ppm]	40 ppm
<b>Netherlands - Occupational Exposure Limits</b>	
TGG-8u (OEL TWA)	20 mg/m <sup>3</sup>
TGG-8u (OEL TWA) [ppm]	5.46 ppm
<b>United Kingdom - Occupational Exposure Limits</b>	
WEL TWA (OEL TWA) [1]	73 mg/m <sup>3</sup>
WEL TWA (OEL TWA) [2]	20 ppm
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH OEL TWA [ppm]	20 ppm

### 8.1.2. Recommended monitoring procedures

No additional information available

### 8.1.3. Air contaminants formed

No additional information available

### 8.1.4. DNEL and PNEC

<b>Dioxan-(1,4) a.r. (123-91-1)</b>	
<b>DNEL/DMEL (Workers)</b>	
Acute - systemic effects, inhalation	74 mg/m <sup>3</sup>
Acute - local effects, inhalation	74 mg/m <sup>3</sup>
Long-term - systemic effects, dermal	6.4 mg/kg bw/day
Long-term - systemic effects, inhalation	37 mg/m <sup>3</sup>
Long-term - local effects, inhalation	37 mg/m <sup>3</sup>
<b>DNEL/DMEL (General population)</b>	
Acute - systemic effects, inhalation	13.1 mg/m <sup>3</sup>
Acute - local effects, inhalation	13.1 mg/m <sup>3</sup>
Long-term - systemic effects, oral	0.096 mg/kg bw/day
Long-term - systemic effects, inhalation	6.6 mg/m <sup>3</sup>
Long-term - systemic effects, dermal	2.27 mg/kg bw/day
Long-term - local effects, inhalation	6.6 mg/m <sup>3</sup>

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Dioxan-(1,4) a.r. (123-91-1)	
<b>PNEC (Water)</b>	
PNEC aqua (freshwater)	10 mg/l
PNEC aqua (marine water)	0.67 mg/l
<b>PNEC (Sediment)</b>	
PNEC sediment (freshwater)	37 mg/kg dwt
<b>PNEC (Soil)</b>	
PNEC soil	0.153 mg/kg dwt
<b>PNEC (STP)</b>	
PNEC sewage treatment plant	2700 mg/l

### 8.1.5. Control banding

No additional information available

## 8.2. Exposure controls

### 8.2.1. Appropriate engineering controls

No additional information available

### 8.2.2. Personal protection equipment

Personal protective equipment symbol(s):



#### 8.2.2.1. Eye and face protection

**Eye protection:**

Protective goggles (EN 166)

#### 8.2.2.2. Skin protection

**Skin and body protection:**

Protective clothing (EN 14605 or EN 13034). Head/neck protection

**Hand protection:**

Protective gloves against chemicals (EN 374)

**Other skin protection**

**Materials for protective clothing:**

Excellent resistance: Polyethylene/ethylenevinylalcohol. Butyl rubber. Good resistance: Tetrafluoroethylene. Less resistance: Viton. Poor resistance: Natural rubber. neoprene (chloroprene rubber). Polyethylene. Polyvinylalcohol (PVA). Polyvinylchloride (PVC)

#### 8.2.2.3. Respiratory protection

**Respiratory protection:**

Full face mask with filter type A at conc. in air > exposure limit

#### 8.2.2.4. Thermal hazards

No additional information available

### 8.2.3. Environmental exposure controls

No additional information available

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### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Colourless.
Appearance	: Liquid.
Molecular mass	: 88.12 g/mol
Odour	: Mild odour. Ether-like odour.
Odour threshold	: Not available
Melting point	: 12 °C
Freezing point	: Not available
Boiling point	: 101 °C
Flammability	: Not available
Oxidising properties	: Not classified.
Explosive limits	: 1.4 – 22.5 vol % 70 – 825 g/m <sup>3</sup>
Lower explosion limit	: 1.4 vol %
Upper explosion limit	: 22.5 vol %
Flash point	: 11 °C (Closed cup, 1013 hPa)
Auto-ignition temperature	: 375 °C (1013 hPa, EU Method A.15: Auto-ignition Temperature (liquids and gases), T2)
Decomposition temperature	: No data available in the literature
pH	: 6 – 8 (50 %)
Viscosity, kinematic	: 1.27 mm <sup>2</sup> /s (20 °C, OECD 114: Viscosity of Liquids)
Viscosity, dynamic	: 1.31 mPa.s (20 °C, OECD 114: Viscosity of Liquids)
Solubility	: Soluble in water. Soluble in alcohols. Soluble in ether. Soluble in acetone. Soluble in dimethyl sulfoxide. Water: 100 g/100ml (20 °C)
Partition coefficient n-octanol/water (Log Kow)	: Not available
Partition coefficient n-octanol/water (Log Pow)	: -0.42 (Experimental value)
Vapour pressure	: 38.5 hPa (20 °C)
Vapour pressure at 50°C	: 159 hPa
Critical pressure	: 51400 hPa
Saturation concentration	: 148 g/m <sup>3</sup> (20 °C)
Density	: 1034 kg/m <sup>3</sup> (20 °C, OECD 109: Density of Liquids and Solids)
Relative density	: 1.03 (OECD 109: Density of Liquids and Solids)
Relative vapour density at 20°C	: 3
Relative density of saturated gas/air mixture	: 1.1
Particle characteristics	: Not applicable

#### 9.2. Other information

##### 9.2.1. Information with regard to physical hazard classes

Explosion limits	: 1.4 – 22.5 vol % 70 – 825 g/m <sup>3</sup>
Critical temperature	: 312 °C

##### 9.2.2. Other safety characteristics

Minimum ignition energy	: < 0.3 mJ
Relative evaporation rate (butylacetate=1)	: 3
Relative evaporation rate (ether=1)	: 7
Specific conductivity	: 0.1 pS/m
VOC content	: 100 %
Other properties	: Gas/vapour heavier than air at 20°C, Hygroscopic, Volatile, May generate electrostatic charges

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

On exposure to light and on exposure to air: peroxidation resulting in increased fire or explosion risk. Reacts violently with (some) acids and with (strong) oxidizers: (increased) risk of fire/explosion. May form explosive peroxides.

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### 10.2. Chemical stability

Unstable on exposure to light. Unstable on exposure to air. Hygroscopic.

### 10.3. Possibility of hazardous reactions

No additional information available

### 10.4. Conditions to avoid

No additional information available

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

Decomposes on exposure to temperature rise: release of highly flammable gases/vapours (hydrogen).

## SECTION 11: Toxicological information

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

Acute toxicity (oral) : Not classified  
Acute toxicity (dermal) : Not classified  
Acute toxicity (inhalation) : Not classified

#### Dioxan-(1,4) a.r. (123-91-1)

LC50 Inhalation - Rat	> 155 mg/l (Equivalent or similar to OECD 403, 1 h, Rat, Male / female, Experimental value, Inhalation (vapours), 14 day(s))
Skin corrosion/irritation	: Not classified pH: 6 – 8 (50 %)
Serious eye damage/irritation	: Causes serious eye irritation. pH: 6 – 8 (50 %)
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Suspected of causing cancer.
Reproductive toxicity	: Not classified
STOT-single exposure	: May cause respiratory irritation.
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

#### Dioxan-(1,4) a.r. (123-91-1)

Viscosity, kinematic	1.27 mm <sup>2</sup> /s (20 °C, OECD 114: Viscosity of Liquids)
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### 11.2. Information on other hazards

#### 11.2.1. Endocrine disrupting properties

No additional information available

#### 11.2.2. Other information

Potential adverse human health effects and symptoms : Odour threshold is well above one of the exposure limits,Odour tolerance may develop,Not irritant to skin,Repeated exposure may cause skin dryness or cracking,May cause respiratory irritation,Causes serious eye irritation,Caution! Substance is absorbed through the skin



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### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - general	: Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008.
Ecology - air	: Not included in the list of substances which may contribute to the greenhouse effect (IPCC). Not included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014). Photodegradation in the air. Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).
Ecology - water	: Not harmful to crustacea. Not harmful to fishes. Water pollutant (surface water). In appropriate low concentrations inhibition of the degradation of activated sludge is not anticipated. Not harmful to algae. No significant hydrolysis.
Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Not classified
Not rapidly degradable	

Dioxan-(1,4) a.r. (123-91-1)	
LC50 - Fish [1]	10800 mg/l (96 h, Pimephales promelas, Flow-through system, Fresh water, Experimental value, Nominal concentration)
EC50 - Crustacea [1]	> 1000 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Semi-static system, Fresh water, Experimental value, Nominal concentration)
EC50 72h - Algae [1]	> 1000 mg/l (OECD 201: Alga, Growth Inhibition Test, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, GLP)

#### 12.2. Persistence and degradability

Dioxan-(1,4) a.r. (123-91-1)	
Persistence and degradability	Non degradable in the soil. Not readily biodegradable in water.
BOD (% of ThOD)	0

#### 12.3. Bioaccumulative potential

Dioxan-(1,4) a.r. (123-91-1)	
BCF - Fish [1]	0.2 – 0.7 (OECD 305: Bioconcentration: Flow-Through Fish Test, Cyprinus carpio, Flow-through system, Fresh water, Experimental value)
Partition coefficient n-octanol/water (Log Pow)	-0.42 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

#### 12.4. Mobility in soil

Dioxan-(1,4) a.r. (123-91-1)	
Surface tension	37 mN/m (20 °C)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	0.42 (log Koc, SRC PCKOCWIN v2.0, Estimated value)
Ecology - soil	Highly mobile in soil.

#### 12.5. Results of PBT and vPvB assessment

Dioxan-(1,4) a.r. (123-91-1)	
This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII	
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII	

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### 12.6. Endocrine disrupting properties

No additional information available

### 12.7. Other adverse effects

No additional information available






## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

- Product/Packaging disposal recommendations : Do not discharge into surface water (Directive 2000/60/EC, Council Decision 2455/2001/EC). Do not discharge into drains or the environment. Dispose of at authorized waste collection point. Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals.
- Additional information : Hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997.
- European List of Waste (LoW) code : 15 01 10\* - packaging containing residues of or contaminated by dangerous substances  
07 01 04\* - other organic solvents, washing liquids and mother liquors

## SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
<b>14.1. UN number or ID number</b>				
UN 1165	UN 1165	UN 1165	UN 1165	UN 1165
<b>14.2. UN proper shipping name</b>				
dioxane	dioxane	dioxane	dioxane	dioxane
<b>Transport document description</b>				
UN 1165 dioxane, 3, II, (D/E)	UN 1165 dioxane, 3, II	UN 1165 dioxane, 3, II	UN 1165 dioxane, 3, II	UN 1165 dioxane, 3, II
<b>14.3. Transport hazard class(es)</b>				
3	3	3	3	3
				
<b>14.4. Packing group</b>				
II	II	II	II	II
<b>14.5. Environmental hazards</b>				
Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No	Dangerous for the environment: No	Dangerous for the environment: No
No supplementary information available				


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### 14.6. Special precautions for user

#### Overland transport

Transport regulations (ADR)	: Subject to the provisions
Classification code (ADR)	: F1
Hazard identification number (Kemler No.)	: 33
Orange plates	: 
Tunnel restriction code (ADR)	: D/E
EAC code	: •2YE

#### Transport by sea

Transport regulations (IMDG)	: Subject to the provisions
EmS-No. (Fire)	: F-E
EmS-No. (Spillage)	: S-D

#### Air transport

Transport regulations (IATA)	: Subject to the provisions
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#### Inland waterway transport

Classification code (ADN)	: F1
Carriage permitted (ADN)	: T

#### Rail transport

Transport regulations (RID)	: Subject to the provisions
Classification code (RID)	: F1

### 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

##### REACH Annex XVII (Restriction List)

Not listed on REACH Annex XVII

##### REACH Annex XIV (Authorisation List)

Not listed on REACH Annex XIV (Authorisation List)

##### REACH Candidate List (SVHC)

Listed on the REACH Candidate List: 1,4-dioxane

##### PIC Regulation (Prior Informed Consent)

Not listed on the PIC list (Regulation EU 649/2012)

##### POP Regulation (Persistent Organic Pollutants)

Not listed on the POP list (Regulation EU 2019/1021)

##### Ozone Regulation (1005/2009)

Not listed on the Ozone Depletion list (Regulation EU 1005/2009)

##### VOC Directive (2004/42)

VOC content : 100 %

##### Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

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### Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

#### 15.1.2. National regulations

##### Germany

Employment restrictions : Observe restrictions according Act on the Protection of Working Mothers (MuSchG).  
Observe restrictions according Act on the Protection of Young People in Employment (JArbSchG).

Water hazard class (WGK) : WGK 3, Highly hazardous to water (Classification according to AwSV; ID No. 86).

Storage class (LGK, TRGS 510) : LGK 3 - Flammable liquids.

Joint storage table

LGK 1	LGK 2A	LGK 2B	LGK 3	LGK 4.1A
LGK 4.1B	LGK 4.2	LGK 4.3	LGK 5.1A	LGK 5.1B
LGK 5.1C	LGK 5.2	LGK 6.1A	LGK 6.1B	LGK 6.1C
LGK 6.1D	LGK 6.2	LGK 7	LGK 8A	LGK 8B
LGK 10	LGK 11	LGK 12	LGK 13	LGK 10-13

Joint storage not permitted for : LGK 1, LGK 2A, LGK 4.1A, LGK 4.1B, LGK 4.2, LGK 4.3, LGK 5.1A, LGK 5.1C, LGK 5.2, LGK 6.1B, LGK 6.2, LGK 7.

Joint storage with restrictions permitted for : LGK 5.1B, LGK 6.1D, LGK 11, LGK 10-13.

Joint storage permitted for : LGK 2B, LGK 3, LGK 6.1A, LGK 6.1C, LGK 8A, LGK 8B, LGK 10, LGK 12, LGK 13.

Hazardous Incident Ordinance (12. BImSchV) : Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

##### Netherlands

ABM category : B(4) - low hazard for aquatic organisms

SZW-lijst van kankerverwekkende stoffen : 1,4-dioxane is listed

SZW-lijst van mutagene stoffen : The substance is not listed

SZW-lijst van reprotoxische stoffen – Borstvoeding : The substance is not listed

SZW-lijst van reprotoxische stoffen – : The substance is not listed

Vruchtbaarheid

SZW-lijst van reprotoxische stoffen – Ontwikkeling : The substance is not listed

##### Denmark

Class for fire hazard : Class I-1

Store unit : 1 liter

Classification remarks : F <Flam. Liq. 2>; Emergency management guidelines for the storage of flammable liquids must be followed

Danish National Regulations : Young people below the age of 18 years are not allowed to use the product  
Pregnant/breastfeeding women working with the product must not be in direct contact with the product

##### Switzerland

Storage class (LK) : LK 3 - Flammable liquids

Chemicals Ordinance (SR 813.11) : Group 2

### 15.2. Chemical safety assessment

No additional information available

## SECTION 16: Other information

### Full text of H- and EUH-statements:

Carc. 2	Carcinogenicity, Category 2
EUH019	May form explosive peroxides.
EUH066	Repeated exposure may cause skin dryness or cracking.
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 2	Flammable liquids, Category 2

# Dioxan-(1,4) a.r.

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

### Full text of H- and EUH-statements:

H225	Highly flammable liquid and vapour.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation

Safety Data Sheet (SDS), EU

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.