

Safety data sheet
according to Regulation (EC) No 1907/2006, Article 31

Printing date 23.07.2026

V 3

Revision: 23.07.2026

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

1.1 Product identifier

Trade name: **Boley OXID-EX Entoxidationsbad**

Article number: 507290, 507291

UFI: P110-801U-Y00K-SSH7

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

1.2.1 Relevant identified uses

Application of the substance / the mixture Acidous cleaning- and pickling agent.

1.2.2 Uses advised against Applications not listed above are not recommended as they are considered unidentified.

1.3 Details of the supplier of the safety data sheet

Manufacturer:

Gebr. Boley GmbH & Co. KG

Julius-Hölder-Str. 2

D - 70597 Stuttgart

Telefon: +49-(0) 711 132 71-0

Fax: +49-(0) 711 132 71-90

Informing department: Technical customer service

1.4 Emergency telephone number:

Giftnotrufzentralen:

Berlin: 030 192 40 Bonn: 0228 192 40 Erfurt: 0361 730 730 Freiburg: 0761 192 40

Göttingen: 0551 192 40 Mainz: 06131 192 40 München: 089 192 40

Wien: +43 140 643 43

Zürich: +41 44 251 51 51

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Met. Corr.1 H290 May be corrosive to metals.
Skin Corr. 1B H314 Causes severe skin burns and eye damage.
Eye Dam. 1 H318 Causes serious eye damage.
Carc. 2 H351 Suspected of causing cancer.
Repr. 2 H361d Suspected of damaging the unborn child.
Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 The product is classified and labelled according to the CLP regulation.

Hazard pictograms



GHS05

GHS08

Signal word Danger

Hazard-determining components of labelling:

thiourea

phosphoric acid

Hazard statements

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

H351 Suspected of causing cancer.

H361d Suspected of damaging the unborn child.

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

P260 Do not breathe dusts or mists.

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

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

P310 Immediately call a POISON CENTER/doctor.

2.3 Other hazards

Results of PBT and vPvB assessment

PBT:

The product does not contain any substance at 0.1% or more by weight that is considered persistent, bioaccumulative and toxic.

(Contd. on page 2)

Safety data sheet

according to Regulation (EC) No 1907/2006, Article 31

Printing date 23.07.2026

V 3

Revision: 23.07.2026

Trade name: **Boley OXID-EX Entoxidationsbad**

(Contd. of page 1)

vPvB:

The product does not contain any substance at 0.1% or more by weight that is considered very persistent and very bioaccumulative.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Description: Mixture of the substances listed below with harmless additions.

Dangerous components:		
CAS: 62-56-6 EINECS: 200-543-5 Reg.nr.: 01-2119977062-37	thiourea Carc. 2, H351; Repr. 2, H361d; Aquatic Chronic 2, H411; Acute Tox. 4, H302	2.5-10%
CAS: 5949-29-1 Reg.nr.: 01-2119457026-42	citric acid monohydrate Eye Irrit. 2, H319; STOT SE 3, H335	0.3-2.5%
CAS: 7664-38-2 EINECS: 231-633-2 Reg.nr.: 01-2119485924-24	phosphoric acid Met. Corr. 1, H290; Skin Corr. 1B, H314; Acute Tox. 4, H302 Specific concentration limits: Skin Corr. 1B; H314: C ≥ 25 % Skin Irrit. 2; H315: 10 % ≤ C < 25 % Eye Irrit. 2; H319: 10 % ≤ C < 25 %	0.3-2.5%
CAS: 67-63-0 EINECS: 200-661-7 Reg.nr.: 01-2119457558-25	Isopropanol Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336	0.3-2.5%
Ingredients due to Detergents Regulation 648/2044 EC:		
PHOSPHATES, NON-IONIC SURFACTANTS, DIPENTENE		<5%
PERFUMES		

SVHC

The product does not contain substances of very high concern (REACH Regulation (EC) No 1907/2006, Article 57) in concentrations of 0.1% or more.

Additional information

Products with EC-Limit-Values are named under section 8.

For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information

Personal protection for the First Aider.

Instantly remove any clothing soiled by the product.

After inhalation

After concentrated exposure to dizziness or unconsciousness, immediately add fresh air and, if necessary, seek medical advice.

After skin contact

Rinse with water and soap directly.

If skin irritation continues, consult a doctor.

After eye contact Rinse opened eye for several minutes under running water. Then consult doctor.

After swallowing

Rinse out mouth and then drink plenty of water.

Call a doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed No further relevant information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents CO₂, extinguishing powder or water jet. Fight larger fires with water jet.

5.2 Special hazards arising from the substance or mixture

Sulphur dioxide (SO₂)

Carbon monoxide (CO)

Nitrogen oxides (NO_x)

Formation of toxic gases is possible during heating or in case of fire.

5.3 Advice for firefighters

Protective equipment: In case of fire harmful vapors may be produced. - Wear respiratory protective device.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

6.2 Environmental precautions:

Do not allow to enter the ground/soil.

Inform respective authorities in case product reaches water or sewage system.

(Contd. on page 3)

Safety data sheet

according to Regulation (EC) No 1907/2006, Article 31

Printing date 23.07.2026

V 3

Revision: 23.07.2026

Trade name: **Boley OXID-EX Entoxidationsbad**

(Contd. of page 2)

Do not allow to enter drainage system, surface or ground water.

6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Use neutralising agent.

Dispose of contaminated material as waste according to item 13.

Ensure adequate ventilation.

6.4 Reference to other sections

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Store in cool, dry place in tightly closed containers.

Open and handle container with care.

Information about protection against explosions and fires: Keep breathing equipment ready.

7.2 Conditions for safe storage, including any incompatibilities

Requirements to be met by storerooms and containers: Provide acid-resistant floor.

Information about storage in one common storage facility: Do not store together with alkalis (caustic solutions).

Further information about storage conditions:

Protect from frost.

Protect from heat and direct sunlight.

Storage class 8 B

7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Components with limit values that require monitoring at the workplace:

7664-38-2 phosphoric acid

AGW (Germany) Long-term value: 2 E mg/m³
2(I);DFG, EU, AGS, Y

67-63-0 Isopropanol

AGW (Germany) Long-term value: 500 mg/m³, 200 ppm
2(II);DFG, Y

DNELs

62-56-6 thiourea

Oral	long-term exposure - systemic effects	0.1 mg/kg bw/day (consumer)
Dermal	long-term exposure - systemic effects	1.7 mg/kg bw/day (consumer)
Inhalative	long-term exposure - systemic effects	0.2 mg/m ³ (consumer)
	long-term exposure - local effects	3.4 mg/m ³ (worker)

67-63-0 Isopropanol

Oral	short-term exposure - systemic effects	51 mg/kg bw/day (consumer)
	long-term exposure - systemic effects	26 mg/kg bw/day (consumer)
Dermal	long-term exposure - systemic effects	319 mg/kg bw/day (worker)
		888 mg/kg bw/day (worker)
Inhalative	long-term exposure - systemic effects	89 mg/m ³ (consumer)
		500 mg/m ³ (worker)

PNECs

62-56-6 thiourea

freshwater	0.01 mg/l (-)
marine water	0.001 mg/l (-)
sediment (freshwater)	0.0725 mg/kg (-)
STP	0.38 mg/l (-)
soil	2.725 mg/kg (-)
sediment (marine water)	0.00725 mg/kg (-)

5949-29-1 citric acid monohydrate

freshwater	0.44 mg/l (-)
marine water	0.044 mg/l (-)
sediment (freshwater)	34.6 mg/kg (-)
STP	1,000 mg/l (-)

(Contd. on page 4)

Safety data sheet

according to Regulation (EC) No 1907/2006, Article 31

Printing date 23.07.2026

V 3

Revision: 23.07.2026

Trade name: **Boley OXID-EX Entoxidationsbad**

(Contd. of page 3)

soil	33.1 mg/kg (-)
sediment (marine water)	3.46 mg/kg (-)
Ingredients with biological limit values:	
67-63-0 Isopropanol	
BGW (Germany)	25 mg/l Untersuchungsmaterial: Vollblut Probennahmezeitpunkt: Expositionsende bzw. Schichtende Parameter: Aceton
	25 mg/l Untersuchungsmaterial: Urin Probennahmezeitpunkt: Expositionsende bzw. Schichtende Parameter: Aceton

Additional information: The lists that were valid during the compilation were used as basis.

8.2 Exposure controls

Appropriate engineering controls No further data; see section 7.

Individual protection measures, such as personal protective equipment

General protective and hygienic measures

Keep away from foodstuffs, beverages and food.

Wash hands during breaks and at the end of the work.

Store protective clothing separately.

Avoid contact with the eyes and skin.

Breathing equipment:

In case of brief exposure or low pollution use breathing filter apparatus. In case of intensive or longer exposure use breathing apparatus that is independent of circulating air.

Only during spraying without adequate removal by suction.

Hand protection

Protective gloves.

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves Safety Gloves of Nitril (EN 374)

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Not suitable are gloves made of the following materials: Leather gloves

Eye/face protection Tightly sealed safety glasses.

Body protection: Protective work clothing.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

Physical state

Colour: Liquid
Yellowish

Odour: lemon

Odour threshold: Not determined

Melting point/freezing point: Not determined

Boiling point or initial boiling point and boiling range 100 °C (7732-18-5 water)

Flammability Not applicable

Lower and upper explosion limit

Lower: Not determined

Upper: Not determined

Flash point: Not applicable

Decomposition temperature: Not determined

pH at 20 °C 1.1

Viscosity:

Kinematic viscosity Not determined

dynamic: Not determined

Solubility

Water: Fully miscible

Partition coefficient n-octanol/water (log value) Not determined

Vapour pressure at 20 °C: 23 hPa (7732-18-5 water)

Density and/or relative density

Density at 20 °C 1.04 g/cm³

Relative density Not determined

Vapour density Not determined

(Contd. on page 5)

Safety data sheet

according to Regulation (EC) No 1907/2006, Article 31

Printing date 23.07.2026

V 3

Revision: 23.07.2026

Trade name: **Boley OXID-EX Entoxidationsbad**

(Contd. of page 4)

9.2 Other information

Appearance:

Form:

Fluid

Self-inflammability:

Product is not selfigniting.

Explosive properties:

Product is not explosive.

Change in condition

Evaporation rate

Not determined

Information with regard to physical hazard classes

Corrosive to metals

May be corrosive to metals.

SECTION 10: Stability and reactivity

10.1 Reactivity No further relevant information available.

10.2 Chemical stability

Thermal decomposition / conditions to be avoided: No decomposition if stored, handled and used as directed.

10.3 Possibility of hazardous reactions

Cleaning tarnished silver produces hydrogen sulphide. This is toxic, but is perceived as an odor of rotten eggs even at the smallest quantities, far below the occupational exposure limits. At concentrations of > 200 ppm, however, the threshold value for numbing the odor receptors is reached and perception fails. Tarnished silver should therefore be cleaned under an extraction system or sufficient ventilation should be ensured by other means.

Reacts with strong alkali

10.4 Conditions to avoid No further relevant information available.

10.5 Incompatible materials: base metals

10.6 Hazardous decomposition products: No dangerous decomposition products known

SECTION 11: Toxicological information

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

Acute toxicity Based on available data, the classification criteria are not met.

LD/LC50 values that are relevant for classification:

62-56-6 thiourea

Oral	LD50	1,750 mg/kg (rat)
Dermal	LD50	2,800 mg/kg (rabbit)
Inhalative	LC50/4h	>0.1 mg/l (rat)

5949-29-1 citric acid monohydrate

Oral	LD50	5,400 mg/kg (mouse) (OECD 401)
Dermal	LD50	>2,000 mg/kg (rat)

7664-38-2 phosphoric acid

Oral	LD50	1,530 mg/kg (rat)
Dermal	LD50	2,740 mg/kg (rabbit)
Inhalative	LC50/1h	1.69 mg/l (rat)

67-63-0 Isopropanol

Oral	LD50	5,840 mg/kg (rat)
Dermal	LD50	13,400 mg/kg (rabbit)
Inhalative	LC50/4h	47.5 mg/l (rat)
	LC50/4 h	>20 mg/m ³ (rat)

Specific symptoms in biological assay:

Skin corrosion/irritation Causes severe skin burns and eye damage.

Serious eye damage/irritation Causes serious eye damage.

Respiratory or skin sensitisation Based on available data, the classification criteria are not met.

Germ cell mutagenicity Based on available data, the classification criteria are not met.

Carcinogenicity Suspected of causing cancer.

Reproductive toxicity Suspected of damaging the unborn child.

STOT-single exposure Based on available data, the classification criteria are not met.

STOT-repeated exposure Based on available data, the classification criteria are not met.

Aspiration hazard Based on available data, the classification criteria are not met.

Additional toxicological information:

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Carc. 2, Repr. 2

11.2 Information on other hazards

Endocrine disrupting properties

None of the ingredients is listed.

(Contd. on page 6)

Safety data sheet

according to Regulation (EC) No 1907/2006, Article 31

Printing date 23.07.2026

V 3

Revision: 23.07.2026

Trade name: **Boley OXID-EX Entoxidationsbad**

(Contd. of page 5)

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity:

62-56-6 thiourea

LC50/96 h	1,000 mg/l (bacydaniao rerio / zebra danio)
LC50/48 h	>1,000 mg/l (Leuciscus-Idus / Goldorfe)
EC50/24 h	110 mg/l (Daphnia Magna)
EC50/96h	6.8 mg/l (Scenedesmus subspicatus)

5949-29-1 citric acid monohydrate

LC50/48 h	440 mg/l (Leuciscus-Idus / Goldorfe)
LC50/24h	1,535 mg/l (Daphnia Magna)

7664-38-2 phosphoric acid

NOEC (48h)	56 mg/l (Daphnia Magna)
LC50/96 h	138 mg/l (Gambusia affinis / Koboldkärpfling)
EC50/48h	>100 mg/l (Daphnia Magna)

67-63-0 Isopropanol

LC50/96 h	9,640 mg/l (Pimephales promelas)
LC50/24h	>10,000 mg/l (Daphnia Magna)
EC50/48h	13,299 mg/l (Daphnia Magna)

12.2 Persistence and degradability No further relevant information available.

Degree of elimination:

The whole Product is biodegradable to over 90 % due to OECD-Method 301-B. Therefore it can be named as easily biodegradable.

12.3 Bioaccumulative potential

67-63-0 Isopropanol

OECD 117 Log Kow	0.05
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12.4 Mobility in soil No further relevant information available.

12.5 Results of PBT and vPvB assessment

PBT: Not applicable

vPvB: Not applicable

12.6 Endocrine disrupting properties The product does not contain substances with endocrine disrupting properties.

12.7 Other adverse effects

Remark: Harmful to fish

Additional ecological information:

CSB-value:

Remark:

67-63-0 Isopropanol

OECD 301 E	99.9 %
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General notes:

Must not reach sewage water or drainage ditch undiluted or unneutralised.

Harmful to aquatic organisms

Water danger class 3 (German Regulation): extremely hazardous for water.

Do not allow product to reach ground water, water bodies or sewage system, even in small quantities.

Danger to drinking water if even small quantities leak into soil.

The material is harmful for the environment.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Recommendation Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

European waste catalogue

The information on the new European waste catalog is essentially based on the use of the product. Here we can not make specific statements about the different fields of application of our products.

Uncleaned packagings:

Recommendation:

Packaging can be reused or recycled after cleaning.

Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning.

Recommended cleaning agent: Clean with water

(Contd. on page 7)

Safety data sheet

according to Regulation (EC) No 1907/2006, Article 31

Printing date 23.07.2026

V 3

Revision: 23.07.2026

Trade name: **Boley OXID-EX Entoxidationsbad**

(Contd. of page 6)

SECTION 14: Transport information

14.1 UN number or ID number

ADR, IMDG, IATA

UN1805

14.2 UN proper shipping name

ADR

IMDG, IATA

1805 PHOSPHORIC ACID, SOLUTION

PHOSPHORIC ACID, SOLUTION

14.3 Transport hazard class(es)

ADR



Class
Label

8 (C1) Corrosive substances.
8

IMDG, IATA



Class
Label

8 Corrosive substances.
8

14.4 Packing group

ADR, IMDG, IATA

III

14.5 Environmental hazards:

Not applicable

14.6 Special precautions for user

Warning: Corrosive substances.

Kemler Number:

80

EMS Number:

F-A, S-B

Segregation groups

(SGG1) Acids

Stowage Category

A

Segregation Code

SG36 Stow "separated from" SGG18-alkalis.

SG49 Stow "separated from" SGG6-cyanides

14.7 Maritime transport in bulk according to IMO instruments

Not applicable

Transport/Additional information:

ADR

Limited quantities (LQ)

5L

Excepted quantities (EQ)

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

Transport category

3

Tunnel restriction code

E

IMDG

Limited quantities (LQ)

5L

Excepted quantities (EQ)

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

UN "Model Regulation":

UN 1805 PHOSPHORIC ACID, SOLUTION, 8, III

SECTION 15: Regulatory information

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

Labelling according to Regulation (EC) No 1272/2008 The product is classified and labelled according to the CLP regulation.

Hazard pictograms



GHS05



GHS08

Signal word Danger

Hazard-determining components of labelling:

thiourea

(Contd. on page 8)

Safety data sheet

according to Regulation (EC) No 1907/2006, Article 31

Printing date 23.07.2026

V 3

Revision: 23.07.2026

Trade name: Boley OXID-EX Entoxidationsbad

(Contd. of page 7)

phosphoric acid

Hazard statements

- H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.
H351 Suspected of causing cancer.
H361d Suspected of damaging the unborn child.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

- P260 Do not breathe dusts or mists.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.

Directive 2012/18/EU
Named dangerous substances - ANNEX I None of the ingredients is listed.

REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3

DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II

None of the ingredients is listed.

REGULATION (EU) 2019/1148
Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))

None of the ingredients is listed.

Annex II - REPORTABLE EXPLOSIVES PRECURSORS

None of the ingredients is listed.

Regulation (EC) No 273/2004 on drug precursors

None of the ingredients is listed.

Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors

None of the ingredients is listed.

National regulations
Decree to be applied in case of technical fault:

Class	Share in %
I	2.5-10
NK	0.3-2.5

Suisse VOC-Content: >1.93-1.94 %

Water hazard class: Water danger class 3 (Self-assessment): extremely hazardous for water.

15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Relevant phrases

- H225 Highly flammable liquid and vapour.
H290 May be corrosive to metals.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H351 Suspected of causing cancer.
H361d Suspected of damaging the unborn child.
H411 Toxic to aquatic life with long lasting effects.

Department issuing data specification sheet: Technical Customer Service / Regulatory Affairs

Contact:

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Date of previous version: 19.03.2026

Abbreviations and acronyms:

Flam. Liq. 2: Flammable liquids – Category 2

Met. Corr. 1: Corrosive to metals – Category 1

Acute Tox. 4: Acute toxicity – Category 4

(Contd. on page 9)

Safety data sheet
according to Regulation (EC) No 1907/2006, Article 31

Printing date 23.07.2026

V 3

Revision: 23.07.2026

Trade name: Boley OXID-EX Entoxidationsbad

(Contd. of page 8)

Skin Corr. 1B: Skin corrosion/irritation – Category 1B
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Carc. 2: Carcinogenicity – Category 2
Repr. 2: Reproductive toxicity – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2
Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3
*** Data compared to the previous version altered.**