

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 15.06.2021

Version number 11

Revision: 15.06.2021

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****· 1.1 Product identifier****· Trade name:** BRUNOX® TURBO-CLEAN 500 ML**· Article number:** 420450**· 1.2 Relevant identified uses of the substance or mixture and uses advised against**

No further relevant information available.

**· Sector of Use**

SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

SU21 Consumer uses: Private households / general public / consumers

SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

**· Product category** Flux agents for casting**· Process category**

PROC7 Industrial spraying

PROC11 Non industrial spraying

**· Application of the substance / the mixture** Cleaning agent/ Cleaner**· 1.3 Details of the supplier of the safety data sheet****· Manufacturer/Supplier:**

BRUNOX Korrosionsschutz GmbH

Adlzreiterstrasse 13

DE – 85051 Ingolstadt

Tel. + 49 / (0) 841 961 29 04

Fax + 49 / (0) 841 961 29 04

E-mail: office@brunox.com

BRUNOX AG

Tunnelstrasse 6

CH – 8732 Neuhaus

Tel. + 41 / (0) 55 285 80 80

Fax + 41 / (0) 55 285 80 81

E-mail: office@brunox.com

**· Further information obtainable from:**

Abteilung Produktesicherheit, während den Bürozeiten; Tel. + 49 / (0) 841 961 29 04

**· 1.4 Emergency telephone number:**

Toxikologisches Informationszentrum

CH – 8030 Zürich, Freiestrasse 16

Tel. + 41 / (0) 44 251 51 51

Notruf – CH (STIZ): 145

Notruf – AT: 01 4064343

Notruf – BE: 070 – 245 245

Notruf – DE: Giftnotrufzentrale 030 19240

Europäische Notrufnr.: 112

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## SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



flame

Aerosol 1            H222-H229 Extremely flammable aerosol. Pressurised container: May burst if heated.



environment

Aquatic Chronic 2 H411            Toxic to aquatic life with long lasting effects.



Skin Irrit. 2            H315            Causes skin irritation.  
STOT SE 3            H336            May cause drowsiness or dizziness.

- **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**



GHS02



GHS07



GHS09

- **Signal word** Danger

- **Hazard-determining components of labelling:**  
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane

- **Hazard statements**

H222-H229 Extremely flammable aerosol. Pressurised container: May burst if heated.  
H315            Causes skin irritation.  
H336            May cause drowsiness or dizziness.  
H411            Toxic to aquatic life with long lasting effects.

- **Precautionary statements**

P101            If medical advice is needed, have product container or label at hand.  
P102            Keep out of reach of children.  
P210            Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P211            Do not spray on an open flame or other ignition source.  
P251            Do not pierce or burn, even after use.  
P260            Do not breathe spray.  
P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.  
P501            Dispose of contents / container in accordance with regional regulations.

- **Additional information:**

Buildup of explosive mixtures possible without sufficient ventilation.

- **2.3 Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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### SECTION 3: Composition/information on ingredients

#### 3.2 Mixtures

**Description:** Mixture of substances listed below with nonhazardous additions.

#### Dangerous components:

EC number: 921-024-6 Reg.nr.: 01-2119475514-35	Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane  Flam. Liq. 2, H225  Asp. Tox. 1, H304  Aquatic Chronic 2, H411  Skin Irrit. 2, H315; STOT SE 3, H336	75-≤100%
CAS: 74-98-6 EINECS: 200-827-9 Index number: 601-003-00-5 Reg.nr.: 01-2119486944-21	propane  Flam. Gas 1A, H220 Press. Gas (Comp.), H280	2.5-<5%
CAS: 124-38-9 EINECS: 204-696-9	carbon dioxide  Press. Gas (Liq.), H280	2.5-<5%
CAS: 106-97-8 EINECS: 203-448-7 Index number: 601-004-00-0 Reg.nr.: 01-2119474691-32	butane  Flam. Gas 1A, H220 Press. Gas (Comp.), H280	2.5-<5%
CAS: 75-28-5 EINECS: 200-857-2 Index number: 601-004-00-0 Reg.nr.: 01-2119485395-27	isobutane  Flam. Gas 1A, H220 Press. Gas (Comp.), H280	2.5-<5%

**Additional information:** For the wording of the listed hazard phrases refer to section 16.

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

- **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** Drink plenty of water and provide fresh air. Call for 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:** Use fire extinguishing methods suitable to surrounding conditions.

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

During heating or in case of fire poisonous gases are produced.

#### 5.3 Advice for firefighters -

• **Protective equipment:** Mouth respiratory protective device.

### SECTION 6: Accidental release measures

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

Mount respiratory protective device.

Wear protective equipment. Keep unprotected persons away.

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Keep away from ignition sources.

· **6.2 Environmental precautions:**

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/ surface or ground water.

· **6.3 Methods and material for containment and cleaning up:**

Dispose 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 disposal information.

## SECTION 7: Handling and storage

· **7.1 Precautions for safe handling** Ensure good ventilation/exhaustion at the workplace.

· **Information about fire - and explosion protection:**

Do not spray onto a naked flame or any incandescent material.

Keep ignition sources away - Do not smoke.

Keep respiratory protective device available.

· **7.2 Conditions for safe storage, including any incompatibilities**

· **Storage:**

· **Requirements to be met by storerooms and receptacles:**

Observe official regulations on storing packagings with pressurised containers.

· **Information about storage in one common storage facility:** Not required.

· **Further information about storage conditions:** Keep container tightly sealed.

· **Storage class:** 2 B

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

## SECTION 8: Exposure controls/personal protection

· **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

**124-38-9 carbon dioxide**

WEL Short-term value: 27400 mg/m<sup>3</sup>, 15000 ppm

Long-term value: 9150 mg/m<sup>3</sup>, 5000 ppm

**106-97-8 butane**

WEL Short-term value: 1810 mg/m<sup>3</sup>, 750 ppm

Long-term value: 1450 mg/m<sup>3</sup>, 600 ppm

Carc (if more than 0.1% of buta-1,3-diene)

· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**

· **Appropriate engineering controls** No further data; see item 7.

· **Individual protection measures, such as personal protective equipment**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Do not inhale gases / fumes / aerosols.

Avoid contact with the skin.

Avoid contact with the eyes and skin.

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· **Respiratory protection:**



In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

Filter A2/P3

· **Hand protection**



Protective gloves

· **Material of gloves**

Butyl rubber, BR

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· **Penetration time of glove material**

Butyl rubber gloves with a thickness of 0.4 mm are resistant to:

Acetone: 480 min

Butyl acetate: 60 min

Ethyl acetate: 170 min

Xylene: 42 min

Butyl rubber gloves with a thickness of 0.4 mm are solvent resistant for 42- 480 minutes. As protective measure, we recommend that users and responsible persons for work safety assume solvent resistance length of 42 minutes. Considering the data in section 3 of this SDS, one can assume longer resistance length in particular cases.

· **Eye/face protection** Not required.

### SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· **Physical state**

Aerosol

· **Colour:**

Colourless

· **Odour:**

Solvent-like

· **Odour threshold:**

Not determined.

· **Melting point/freezing point:**

Undetermined.

· **Boiling point or initial boiling point and boiling range**

Not applicable, as aerosol.

· **Flammability**

Not applicable.

· **Lower and upper explosion limit**

· **Lower:**

0.6 Vol % (Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane)

· **Upper:**

8 Vol % (Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane)

· **Flash point:**

Not applicable, as aerosol.

· **Decomposition temperature:**

Not determined.

· **pH**

Not determined.

· **Viscosity:**

· **Kinematic viscosity**

Not determined.

· **Dynamic:**

Not determined.

· **Solubility**

· **water:**

Not miscible or difficult to mix.

· **Partition coefficient n-octanol/water (log value)**

Not determined.

· **Vapour pressure at 20 °C (68 °F):**

5500 hPa (4125.3 mm Hg)

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· <b>Density and/or relative density</b>	
· <b>Density at 20 °C (68 °F):</b>	0.7 g/cm <sup>3</sup> (5.8 lbs/gal)
· <b>Relative density</b>	Not determined.
· <b>Vapour density</b>	Not determined.
<b>· 9.2 Other information</b>	
· <b>Appearance:</b>	
· <b>Form:</b>	Aerosol
· <b>Important information on protection of health and environment, and on safety.</b>	
· <b>Ignition temperature:</b>	>200 °C (>392 °F) (Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane)
· <b>Explosive properties:</b>	Not determined.
· <b>Solvent content:</b>	
· <b>Organic solvents:</b>	96.9 %
· <b>VOC (EC)</b>	---
	690.0 g/l
· <b>VOC-EU%</b>	96.91 %
· <b>Solids content:</b>	0.0 %
· <b>Change in condition</b>	
· <b>Evaporation rate</b>	Not applicable.
<b>· Information with regard to physical hazard classes</b>	
· <b>Explosives</b>	Void
· <b>Flammable gases</b>	Void
· <b>Aerosols</b>	Extremely flammable aerosol. Pressurised container: May burst if heated.
· <b>Oxidising gases</b>	Void
· <b>Gases under pressure</b>	Void
· <b>Flammable liquids</b>	Void
· <b>Flammable solids</b>	Void
· <b>Self-reactive substances and mixtures</b>	Void
· <b>Pyrophoric liquids</b>	Void
· <b>Pyrophoric solids</b>	Void
· <b>Self-heating substances and mixtures</b>	Void
· <b>Substances and mixtures, which emit flammable gases in contact with water</b>	Void
· <b>Oxidising liquids</b>	Void
· <b>Oxidising solids</b>	Void
· <b>Organic peroxides</b>	Void
· <b>Corrosive to metals</b>	Void
· <b>Desensitised explosives</b>	Void

## 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 used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

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## SECTION 11: Toxicological information

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

#### Acute toxicity

#### LD/LC50 values relevant for classification:

**Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane**

Oral	LD50	>5840 mg/kg (rat)
Dermal	LD50	>2920 mg/kg (rab)
Inhalative	LC50 / 4h	>25.2 mg/l (rat)

• **Skin corrosion/irritation** Causes skin irritation.

• **Serious eye damage/irritation** No irritating effect.

• **Respiratory or skin sensitisation** No sensitising effects known.

• **STOT-single exposure** May cause drowsiness or dizziness.

### 11.2 Information on other hazards

#### Endocrine disrupting properties

None of the ingredients is listed.

## SECTION 12: Ecological information

### 12.1 Toxicity

#### Aquatic toxicity:

**Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane**

EC50 / 48 h	3 mg/l (daphnia magna)
EC50 / 72 h	30-100 mg/l (algae)
LC50 / 96 h	11.4 mg/l (fish)

• **12.2 Persistence and degradability** No further relevant information available.

• **12.3 Bioaccumulative potential** No further relevant information available.

• **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:** Toxic for fish

#### Additional ecological information:

##### General notes:

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

Also poisonous for fish and plankton in water bodies.

Toxic for aquatic organisms

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Recommendation

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

#### Uncleaned packaging:

##### Recommendation:

Disposal must be made according to official regulations.

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Disposal must be made according to official regulations.

**SECTION 14: Transport information**

· 14.1 UN number or ID number · ADR, IMDG, IATA	UN1950
· 14.2 UN proper shipping name · ADR  · IMDG  · IATA	1950 AEROSOLS, ENVIRONMENTALLY HAZARDOUS AEROSOLS (Naphtha (petroleum), hydrotreated light), MARINE POLLUTANT AEROSOLS, flammable
· 14.3 Transport hazard class(es) · ADR	
	
· Class · Label	2 5F Gases. 2.1
· IMDG	
	
· Class · Label	2.1 2.1
· IATA	
	
· Class · Label	2.1 2.1
· 14.4 Packing group · ADR, IMDG, IATA	not regulated
· 14.5 Environmental hazards: · Marine pollutant: · Special marking (ADR):	Symbol (fish and tree) Symbol (fish and tree)
· 14.6 Special precautions for user · Hazard identification number (Kemler code): · EMS Number: · Stowage Code  · Segregation Code	Warning: Gases. - F-D,S-U SW1 Protected from sources of heat. SW22 For AEROSOLS with a maximum capacity of 1 litre: Category A. For AEROSOLS with a capacity above 1 litre: Category B. For WASTE AEROSOLS: Category C, Clear of living quarters. SG69 For AEROSOLS with a maximum capacity of 1 litre: Segregation as for class 9. Stow "separated from" class 1 except for division 1.4.

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	For AEROSOLS with a capacity above 1 litre: Segregation as for the appropriate subdivision of class 2. For WASTE AEROSOLS: Segregation as for the appropriate subdivision of class 2.
· <b>14.7 Maritime transport in bulk according to IMO instruments</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>ADR</b>	
· <b>Limited quantities (LQ)</b>	IL
· <b>Excepted quantities (EQ)</b>	Code: E0 Not permitted as Excepted Quantity Code: E0 Not permitted as Excepted Quantity
· <b>Transport category</b>	2
· <b>Tunnel restriction code</b>	D
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	IL
· <b>Excepted quantities (EQ)</b>	Code: E0 Not permitted as Excepted Quantity Code: E0 Not permitted as Excepted Quantity
· <b>UN "Model Regulation":</b>	UN 1950 AEROSOLS, 2.1, ENVIRONMENTALLY HAZARDOUS

### SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category**  
P3a FLAMMABLE AEROSOLS  
E2 Hazardous to the Aquatic Environment
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 150 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 500 t
- **National regulations:**
- **Other regulations, limitations and prohibitive regulations**
- **Substances of very high concern (SVHC) according to REACH, Article 57**  
None of the ingredients is listed.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**  
H220 Extremely flammable gas.  
H225 Highly flammable liquid and vapour.  
H280 Contains gas under pressure; may explode if heated.

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*H304 May be fatal if swallowed and enters airways.*

*H315 Causes skin irritation.*

*H336 May cause drowsiness or dizziness.*

*H411 Toxic to aquatic life with long lasting effects.*

**Abbreviations and acronyms:**

*RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)*

*ICAO: International Civil Aviation Organisation*

*ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)*

*IMDG: International Maritime Code for Dangerous Goods*

*IATA: International Air Transport Association*

*GHS: Globally Harmonised System of Classification and Labelling of Chemicals*

*EINECS: European Inventory of Existing Commercial Chemical Substances*

*ELINCS: European List of Notified Chemical Substances*

*CAS: Chemical Abstracts Service (division of the American Chemical Society)*

*VOC: Volatile Organic Compounds (USA, EU)*

*LC50: Lethal concentration, 50 percent*

*LD50: Lethal dose, 50 percent*

*PBT: Persistent, Bioaccumulative and Toxic*

*SVHC: Substances of Very High Concern*

*vPvB: very Persistent and very Bioaccumulative*

*Flam. Gas 1A: Flammable gases – Category 1A*

*Aerosol 1: Aerosols – Category 1*

*Press. Gas (Comp.): Gases under pressure – Compressed gas*

*Press. Gas (Liq.): Gases under pressure – Liquefied gas*

*Flam. Liq. 2: Flammable liquids – Category 2*

*Skin Irrit. 2: Skin corrosion/irritation – Category 2*

*STOT SE 3: Specific target organ toxicity (single exposure) – Category 3*

*Asp. Tox. 1: Aspiration hazard – Category 1*

*Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2*

**\* Data compared to the previous version altered.**

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