

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

Printing date 16.03.2021

Version number 25

Revision: 16.03.2021

**SECTION 1: Identification of the substance/mixture and of the company/  
undertaking****1.1 Product identifier**· **Trade name:** BRUNOX® Top-Kett® (AEROSOL)· **UFI:** Y579-40AQ-M000-KETH**1.2 Relevant identified uses of the substance or mixture and uses advised against****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**

PC2 Adsorbents

PC14 Metal surface treatment products

PC24 Lubricants, greases, release products

**Process category**

PROC7 Industrial spraying

PROC11 Non industrial spraying

PROC17 Lubrication at high energy conditions in metal working operations

PROC18 General greasing /lubrication at high kinetic energy conditions

**Environmental release category**

ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)

**Application of the substance / the mixture**

Anticorrosion additive

Lubricant

**1.3 Details of the supplier of the safety data sheet****Manufacturer/Supplier:**

BRUNOX Korrosionsschutz GmbH

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Postfach 100127 , 85001 Ingolstadt

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**Further information obtainable from:**

Abteilung Produktsicherheit / Product Safety Department:

Tel. - Switzerland: +41/ (0)55 285 80 80

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

Mo - Do / Mon - Thu: 08:00 - 16:00 Uhr

Fr / Fri: 08:00 - 12:00 Uhr

**1.4 Emergency telephone number:**

Toxikologisches Informationszentrum

CH - 8030 Zürich, Freiestrasse 16

Tel. +41/ 044 251 51 51

Notruf - CH, STIZ : 145

Notruf - D - : Giftnotrufzentrale 030 19240

Notruf - BE - : 070 -245 245

EUROPÄISCHE NOTRUFNR. : 112

Notruf - GB - : 844 892 0111

Notruf - IE - : + 353 1 837 9964 (medical professionals); + 353 1 809 2166 (public)

Notruf - IS - : + 354 543 22 22

Notruf - JP - : + 81 72 727 2499; + 81 29 852 9999

Notruf - NZ - : 0800 764 766

Notruf - PK - : + 92 21 9920509; + 92 21 35686535

Notruf - PH - : + 632 524 10 78; + 632 544 84 00; local 2311

Notruf - SA - : + 966 146 77 353, + 966 3 8155 646; Ext. 280, 282, 283

Notruf - TH - : + 66 201 1086

Notruf - UAE - : 800 424

Notruf - ZA - : + 27 824 910 160

**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008**

GHS02 flame

Aerosol 1

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



GHS09 environment

Aquatic Chronic 2 H411

Toxic to aquatic life with long lasting effects.



GHS07

Skin Irrit. 2

H315

Causes skin irritation.

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Eye Irrit. 2	H319	Causes serious eye 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 statements**

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

H315 Causes skin irritation.

H319 Causes serious eye 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.

P103 Read carefully and follow all instructions.

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.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P271 Use only outdoors or in a well-ventilated area.

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

P405 Store locked up.

P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**Labelling of packages where the contents do not exceed 125 ml****Hazard pictograms**

GHS02 GHS07 GHS09

**Signal word** Danger**Hazard statements**

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

H336 May cause drowsiness or dizziness.

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#### · Precautionary statements

- P101 If medical advice is needed, have product container or label at hand.  
 P102 Keep out of reach of children.  
 P103 Read carefully and follow all instructions.  
 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.  
 P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
 P271 Use only outdoors or in a well-ventilated area.  
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P405 Store locked up.  
 P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

#### · 2.3 Other hazards

#### · Results of PBT and vPvB assessment

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

## SECTION 3: Composition/information on ingredients

#### · 3.2 Mixtures

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

#### · Dangerous components:

CAS: 64742-49-0 EINECS: 265-151-9 Index number: 649-328-00-1 Reg.nr.: 01-2119475514-35-XXXX	Naphtha (petroleum), hydrotreated light ⚠ Flam. Liq. 2, H225 ⚠ Asp. Tox. 1, H304 ⚠ Aquatic Chronic 2, H411 ⚠ Skin Irrit. 2, H315; STOT SE 3, H336	≥20-<25%
CAS: 92045-53-9 EINECS: 295-434-2 Index number: 649-383-00-1 Reg.nr.: 01-2119475515-33-XXXX	Naphtha (petroleum), hydrodesulfurized light dearomatized ⚠ Flam. Liq. 2, H225 ⚠ Asp. Tox. 1, H304 ⚠ Aquatic Chronic 2, H411 ⚠ Skin Irrit. 2, H315; STOT SE 3, H336	≥20-<25%
CAS: 64742-47-8 EINECS: 265-149-8 Index number: 649-422-00-2 Reg.nr.: 01-2119484819-18-XXXX	Distillates (petroleum), hydrotreated light ⚠ Flam. Liq. 3, H226 ⚠ Asp. Tox. 1, H304 ⚠ STOT SE 3, H336	2.5-10%
CAS: 5131-66-8 EINECS: 225-878-4 Index number: 603-052-00-8 Reg.nr.: 01-2119475527-28-XXXX	3-butoxypropan-2-ol ⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319	≥2.5-<10%

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CAS: 68608-26-4	sulfonic acids, petroleum, sodium salts	(Contd. of page 4) ≥2.5-<10%
Reg.nr.: 01-2119527859-22-XXXX	⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319	
CAS: 124-38-9	carbon dioxide	2.5-10%
EINECS: 204-696-9	substance with a Community workplace exposure limit	

- **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:**  
If skin irritation continues, consult a doctor.  
Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist consult doctor.
- **4.2 Most important symptoms and effects, both acute and delayed**  
Nausea  
Headache  
Dizziness
- **Hazards** Danger of pneumonia.
- **4.3 Indication of any immediate medical attention and special treatment needed**  
If swallowed or in case of vomiting, danger of entering the lungs.

### SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** Foam
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **5.2 Special hazards arising from the substance or mixture**  
Formation of toxic gases is possible during heating or in case of fire.  
In case of fire, the following can be released:  
Carbon monoxide (CO)
- **5.3 Advice for firefighters**
- **Protective equipment:**  
Do not inhale explosion gases or combustion gases.  
Wear self-contained respiratory protective device.  
Wear fully protective suit.
- **Additional information** Cool endangered receptacles with water spray.

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### **SECTION 6: Accidental release measures**

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Ensure adequate ventilation  
Keep away from ignition sources.  
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:**  
Do not allow product to reach sewage system or any water course.  
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:** 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**  
Keep away from heat and direct sunlight.  
Use only in well ventilated areas.  
Ensure good ventilation/exhaustion at the workplace.  
Open and handle receptacle with care.
- **Information about fire - and explosion protection:**  
Do not spray onto a naked flame or any incandescent material.  
Use explosion-proof apparatus / fittings and spark-proof tools.  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.  
Pressurised container: protect from sunlight and do not expose to temperatures exceeding 50°C, i.e. electric lights. Do not pierce or burn, even after use.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**  
Store in a cool location.  
Observe official regulations on storing packagings with pressurised containers.
- **Information about storage in one common storage facility:**  
Store away from foodstuffs.  
Store away from oxidising agents.
- **Further information about storage conditions:**  
Store in a cool place. Heat will increase pressure and may lead to the receptacle bursting.  
Store under lock and key and out of the reach of children.  
Keep container tightly sealed.  
Do not seal receptacle gas tight.  
Store in cool, dry conditions in well sealed receptacles.  
Protect from heat and direct sunlight.

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

### **SECTION 8: Exposure controls/personal protection**

- **8.1 Control parameters**
- **Additional information about design of technical facilities:** No further data; see item 7.
- **Ingredients with limit values that require monitoring at the workplace:**  
**CAS: 124-38-9 carbon dioxide**  
IOELV Long-term value: 9000 mg/m<sup>3</sup>, 5000 ppm
- **Additional information:** The lists valid during the making were used as basis.

- **8.2 Exposure controls**
- **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.
- **Respiratory protection:**  
Filter A/P2  
Filter AX

- **Protection of hands:**



Protective gloves

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

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

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

- **Material of gloves**

Nitrile rubber, NBR

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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- **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.

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**· Eye protection:**

Tightly sealed goggles

**· Body protection:** Light weight protective clothing**SECTION 9: Physical and chemical properties****· 9.1 Information on basic physical and chemical properties****· General Information****· Appearance:****Form:** Aerosol  
**Colour:** olivegelblich / olive-yellow**· Odour:** Characteristic**· Odour threshold:** Not determined.**· pH-value:** Not determined.**· Change in condition****· Melting point/freezing point:** Undetermined.**· Initial boiling point and boiling range:** 170 °C**· Flash point:** Not applicable, as aerosol.**· Flammability (solid, gas):** Not applicable.**· Ignition temperature:** 210 °C**· Decomposition temperature:** Not determined.**· Auto-ignition temperature:** Product is not selfigniting.**· Explosive properties:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.**· Explosion limits:****Lower:** 0.5 Vol %**Upper:** 6.5 Vol %**· Vapour pressure:** Not determined.**· Density at 20 °C:** 0.84 g/cm<sup>3</sup>**· Relative density** Not determined.**· Vapour density** Not determined.**· Evaporation rate** Not applicable.**· Solubility in / Miscibility with****water:** Not miscible or difficult to mix.**· Partition coefficient: n-octanol/water:** Not determined.

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- **Viscosity:**
  - Dynamic:** Not determined.
  - Kinematic:** Not determined.
- **Solvent content:**
  - Organic solvents:** 48.0 %
  - VOC (EC)** 0,00 %
  - Solids content:** 3.0 %
- **9.2 Other information** No further relevant information available.

**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** Danger of bursting.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** Carbon monoxide and carbon dioxide

**SECTION 11: Toxicological information**

- **11.1 Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.
- **LD/LC50 values relevant for classification:**
  - CAS: 64742-49-0 Naphtha (petroleum), hydrotreated light**
    - Oral LD50 >5,000 mg/kg (rat)
    - Dermal LD50 >2,000 mg/kg (rat)
    - Inhalative LC50/4 h >25,000 mg/l (rat)
  - CAS: 92045-53-9 Naphtha (petroleum), hydrodesulfurized light dearomatized**
    - Oral LD50 >5,840 mg/kg (rat)
    - Dermal LD50 >2,920 mg/kg (rat)
    - Inhalative LC50/4 h 23.3 mg/l (rat)
  - CAS: 64742-47-8 Distillates (petroleum), hydrotreated light**
    - Oral LD50 >2,000 mg/kg (rat)
    - Dermal LD50 >2,000 mg/kg (rabbit)
  - CAS: 5131-66-8 3-butoxypropan-2-ol**
    - Oral LD50 3,300 mg/kg (rat)
    - Dermal LD50 >2,000 mg/kg (rabbit)

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Inhalative LC50/4 h 651 mg/l (rat)

- **Primary irritant effect:**
- **Skin corrosion/irritation**  
Causes skin irritation.
- **Serious eye damage/irritation**  
Causes serious eye irritation.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Additional toxicological information:**
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure**  
May cause drowsiness or dizziness.
- **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.

\*

**SECTION 12: Ecological information**

- **12.1 Toxicity**
- **Aquatic toxicity:**
  - CAS: 64742-49-0 Naphtha (petroleum), hydrotreated light**  
LC50/96 h >10 mg/l (Fish)  
EC50/48h 3 mg/l (daphnia)
  - CAS: 92045-53-9 Naphtha (petroleum), hydrodesulfurized light dearomatized**  
LC50/96 h >13.4 mg/l (Fish)  
EC50/48h 3 mg/l (daphnia)  
IC50 algae 10-30 mg/l (algae)
  - CAS: 5131-66-8 3-butoxypropan-2-ol**  
LC50/96 h 560-1,000 mg/l (Poecilia reticulata (Guppy))  
EC50/48h >1,000 mg/l (daphnia)  
IC50 algae >1,000 mg/l (algae)
- **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.
- **Ecotoxicological effects:**
- **Remark:** Toxic for fish
- **Additional ecological information:**
- **General notes:**  
Toxic for aquatic organisms  
Also poisonous for fish and plankton in water bodies.  
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water  
Do not allow product to reach ground water, water course or sewage system.

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

· **12.5 Results of PBT and vPvB assessment**· **PBT:** Not applicable.· **vPvB:** Not applicable.· **12.6 Other adverse effects** No further relevant information available.**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.

· **European waste catalogue**

HP3 Flammable

HP4 Irritant - skin irritation and eye damage

HP5 Specific Target Organ Toxicity (STOT)/Aspiration Toxicity

HP14 Ecotoxic

· **Uncleaned packaging:**· **Recommendation:** Disposal must be made according to official regulations.**SECTION 14: Transport information**· **14.1 UN-Number**· **ADR/RID/ADN, IMDG, IATA**

UN1950

· **14.2 UN proper shipping name**· **ADR/RID/ADN**1950 AEROSOLS, ENVIRONMENTALLY  
HAZARDOUS· **IMDG**

AEROSOLS, MARINE POLLUTANT

· **IATA**

AEROSOLS, flammable

· **14.3 Transport hazard class(es)**· **ADR/RID/ADN**· **Class**

2 5F Gases.

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· <b>Label</b>	2.1
· <b>IMDG</b>	
	
· <b>Class</b>	2.1
· <b>Label</b>	2.1
· <b>IATA</b>	
	
· <b>Class</b>	2.1
· <b>Label</b>	2.1
· <b>14.4 Packing group</b>	
· <b>ADR/RID/ADN, IMDG, IATA</b>	Void
· <b>14.5 Environmental hazards:</b>	
· <b>Marine pollutant:</b>	Yes Symbol (fish and tree)
· <b>Special marking (ADR/RID/ADN):</b>	Symbol (fish and tree)
· <b>14.6 Special precautions for user</b>	Warning: Gases.
· <b>Hazard identification number (Kemler code):</b>	-
· <b>EMS Number:</b>	F-D,S-U
· <b>Stowage Code</b>	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. 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>Segregation Code</b>	
· <b>14.7 Transport in bulk according to Annex II of Marpol and the IBC Code</b>	Not applicable.

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- **Transport/Additional information:**
- **ADR/RID/ADN**
- **Limited quantities (LQ)** 1L
- **Excepted quantities (EQ)** Code: E0  
Not permitted as Excepted Quantity
- **Transport category** 2
- **Tunnel restriction code** D
- **IMDG**
- **Limited quantities (LQ)** 1L
- **Excepted quantities (EQ)** Code: E0  
Not permitted as Excepted Quantity
- **UN "Model Regulation":** 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**  
E2 Hazardous to the Aquatic Environment  
P3b FLAMMABLE AEROSOLS
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 200 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 500 t
- **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.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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**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**

- H225 Highly flammable liquid and vapour.
- H226 Flammable liquid and vapour.
- H304 May be fatal if swallowed and enters airways.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H336 May cause drowsiness or dizziness.
- H411 Toxic to aquatic life with long lasting effects.

**· Department issuing SDS: Abteilung Produktsicherheit****· Contact: siehe Seite 1 / see page 1****· 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
- vPvB: very Persistent and very Bioaccumulative
- Aerosol 1: Aerosols – Category 1
- Flam. Liq. 2: Flammable liquids – Category 2
- Flam. Liq. 3: Flammable liquids – Category 3
- Skin Irrit. 2: Skin corrosion/irritation – Category 2
- Eye Irrit. 2: Serious eye damage/eye 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.**