# British Pharmacopoeia Reagent - Crystal Violet Solution

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
SDS Reference Number: BPR094
Issue date: 01/11/2013 Revision date: 07/01/2025 Supersedes version of: 12/02/2018 Version: 1.3

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

### 1.1. Product identifier

Product form : Mixture
Product name : British Pharmacopoeia Reagent - Crystal Violet Solution
Product code : BPR094

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

#### Relevant identified uses

Main use category : Professional use
Use of the substance/mixture : Laboratory chemical
Function or use category : Laboratory chemicals

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

**Spectracer UK Ltd.**
20 Seymour Mews,
London,
W1H 6BQ,
United Kingdom.

Tel: +44 (0) 207 193 9114
Fax:+44 (0) 203 432 4686
Email: contact@spectracer.com
Web: www.spectracer.com

### 1.4. Emergency telephone number

| Country/Area | Organisation/Company | Address | Emergency number | Comment |
|---|---|---|---|---|
| Ireland | National Poisons Information Centre Beaumont Hospital | Beaumont Hospital Beaumont Road 9 Dublin | : +353 1 8379964 | |
| Malta | Medicines & Poisons Info Office | Mater Dei Hospital Msida MSD 2090 Msida | 112 +356 2545 6508 | |
| United Kingdom | National Poisons Information Service (NHS Direct) | http://www.npis.org | 111 (England & Wales only) or 112 (EU) or 08454 24 24 24 (Scotland) | |

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

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

Flammable liquids, Category 3 H226
Skin corrosion/irritation, Category 1 H314
Serious eye damage/eye irritation, Category 1 H318
Hazardous to the aquatic environment – Chronic Hazard, Category 3 H412
Full text of H- and EUH-statements: see section 16

### Adverse physicochemical, human health and environmental effects

Flammable liquid and vapour. Causes severe skin burns and eye damage. Causes serious eye damage. Harmful to aquatic life with long lasting effects.

## 2.2. Label elements

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

Hazard pictograms (CLP) :

GHS02 GHS05

Signal word (CLP) : Danger

Contains : acetic acid

Hazard statements (CLP) : H226 - Flammable liquid and vapour.
H314 - Causes severe skin burns and eye damage.
H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements (CLP) : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
P273 - Avoid release to the environment.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331+P310 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor.
P303+P361+P353+P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a POISON CENTER or doctor.
P305+P351+P338+P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.

## 2.3. Other hazards

Contains no PBT and/or vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

| Component | |
|---|---|
| Substance(s) not meeting the PBT criteria of REACH regulation, in accordance with Annex XIII | C.I. Basic Violet 3; 4-[4,4'-bis(dimethylamino) benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (548-62-9), acetic acid (64-19-7) |
| Substance(s) not meeting the vPvB criteria of REACH regulation, in accordance with Annex XIII | C.I. Basic Violet 3; 4-[4,4'-bis(dimethylamino) benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (548-62-9), acetic acid (64-19-7) |

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are 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 at a concentration equal to or greater than 0,1 %

| Component | |
|---|---|
| Substance(s) 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 | C.I. Basic Violet 3; 4-[4,4'-bis(dimethylamino) benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (548-62-9) |

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

| Name | Product identifier | % | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|---|---|---|---|
| acetic acid<br>substance with national workplace exposure limit(s) (AT, BE, BG, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GI, GR, HR, HU, IE, IT, LT, LU, LV, MT, PL, PT, RO, SE, SK, AL, IS, NO, MK, RS, CH, TR); substance with a Community workplace exposure limit | CAS-No.: 64-19-7<br>EC-No.: 200-580-7<br>EC Index-No.: 607-002-00-6<br>REACH-no: 01-2119475328-30-XXXX | ≥ 99 | Flam. Liq. 3, H226<br>Skin Corr. 1A, H314 |
| C.I. Basic Violet 3; 4-[4,4'-bis(dimethylamino) benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride<br>substance listed on REACH Candidate List ([4-[4,4'-bis(dimethylamino) benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (C.I. Basic Violet 3)) | CAS-No.: 548-62-9<br>EC-No.: 208-953-6<br>EC Index-No.: 612-204-00-2 | 0.5 – 1 | Acute Tox. 4 (Oral), H302<br>Eye Dam. 1, H318<br>Carc. 2, H351<br>Aquatic Acute 1, H400 (M=10)<br>Aquatic Chronic 1, H410 |

**Specific concentration limits:**

| Name | Product identifier | Specific concentration limits (%) |
|---|---|---|
| acetic acid | CAS-No.: 64-19-7<br>EC-No.: 200-580-7<br>EC Index-No.: 607-002-00-6<br>REACH-no: 01-2119475328-30-XXXX | (10 ≤ C < 25) Eye Irrit. 2; H319<br>(10 ≤ C < 25) Skin Irrit. 2; H315<br>(25 ≤ C < 90) Skin Corr. 1B; H314<br>(90 ≤ C < 100) Skin Corr. 1A; H314 |

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

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general : Call a physician immediately.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.

First-aid measures after skin contact : Rinse skin with water/shower. Take off immediately all contaminated clothing. Call a physician immediately.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.

First-aid measures after ingestion : Rinse mouth. Do not induce vomiting. Call a physician immediately.

First-aid measures for first aider : First aid workers will be equipped with suitable personal protective equipment.

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

Symptoms/effects after inhalation : None under normal conditions.

Symptoms/effects after skin contact : Burns.

Symptoms/effects after eye contact : Serious damage to eyes.

Symptoms/effects after ingestion : Burns.

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

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media : Do not use a heavy water stream.

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

Fire hazard : Flammable liquid and vapour.
Explosion hazard : No direct explosion hazard.
Hazardous decomposition products in case of fire : Toxic fumes may be released.

### 5.3. Advice for firefighters

Firefighting instructions : Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.
Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## SECTION 6: Accidental release measures

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

General measures : Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material damage.

#### For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.
Emergency procedures : Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray.

#### For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures : Evacuate unnecessary personnel. Stop leak if safe to do so.

### 6.2. Environmental precautions

Avoid release to the environment.

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

For containment : Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak without risks if possible.
Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.
Other information : Dispose of materials or solid residues at an authorized site.

### 6.4. Reference to other sections

For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Additional hazards when processed : Not expected to present a significant hazard under anticipated conditions of normal use.
Precautions for safe handling : Ensure good ventilation of the work station. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapours may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray.

Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

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

Technical measures : Ground/bond container and receiving equipment.
Storage conditions : Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.
Packaging materials : Store always product in container of same material as original container.

**Germany**

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

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

**National occupational exposure and biological limit values**

| C.I. Basic Violet 3; 4-[4,4'-bis(dimethylamino) benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (548-62-9) | |
|---|---|
| **Austria - Occupational Exposure Limits** | |
| Local name | C.I. Basic Violet 3 |
| Remark | Krebserzeugend: III B |
| Regulatory reference | BGBl. II Nr. 156/2021 |

| acetic acid (64-19-7) | |
|---|---|
| **EU - Indicative Occupational Exposure Limit (IOEL)** | |
| Local name | Acetic acid |
| IOEL TWA | 25 mg/m³ |
| | 10 ppm |
| IOEL STEL | 50 mg/m³ |
| | 20 ppm |
| Regulatory reference | COMMISSION DIRECTIVE (EU) 2017/164 |
| **Albania - Occupational Exposure Limits** | |
| Local name | Acid acetik |
| OEL TWA | 25 mg/m³ |
| | 10 ppm |

| acetic acid (64-19-7) | |
|---|---|
| Regulatory reference | VENDIM Nr. 522, datë 6.8.2014 PËR MIRATIMIN E RREGULLORES “PËR MBROJTJEN E SIGURISË DHE SHËNDETIT TË PUNËMARRËSVE NGA RISQET E LIDHURA ME AGJENTËT KIMIKË NË PUNË” |
| **Austria - Occupational Exposure Limits** | |
| Local name | Essigsäure |
| MAK (OEL TWA) | 25 mg/m³ |
| | 10 ppm |
| MAK (OEL STEL) | 50 mg/m³ (8x 5(Mow) min) |
| | 20 ppm (8x 5(Mow) min) |
| Regulatory reference | BGBl. II Nr. 156/2021 |
| **Belgium - Occupational Exposure Limits** | |
| Local name | Acide acétique # Azijnzuur |
| OEL TWA | 25 mg/m³ |
| | 10 ppm |
| OEL STEL | 38 mg/m³ |
| | 15 ppm |
| Regulatory reference | Koninklijk besluit/Arrêté royal 16/11/2023 |
| **Bulgaria - Occupational Exposure Limits** | |
| Local name | Оцетна киселина |
| OEL TWA | 25 mg/m³ |
| | 10 ppm |
| OEL STEL | 50 mg/m³ |
| | 20 ppm |
| Remark | • (Химични агенти, за които са определени гранични стойности във въздуха на работната среда за Европейската общност) |
| Regulatory reference | Наредба № 13 от 30.12.2003 г. за защита на работещите от рискове, свързани с експозиция на химични агенти при работа (изм. и доп. ДВ. бр. 28 от 2024 г., в сила от 05.04.2024 г.) |
| **Croatia - Occupational Exposure Limits** | |
| Local name | Octena kiselina |
| GVI (OEL TWA) | 25 mg/m³ |
| | 10 ppm |
| KGVI (OEL STEL) | 50 mg/m³ |
| | 20 ppm |
| Remark | Direktiva: 2017/164/EU |
| Regulatory reference | Pravilnik o zaštiti radnika od izloženosti opasnim kemikalijama na radu, graničnim vrijednostima izloženosti i biološkim graničnim vrijednostima (NN 148/2023) |
| **Cyprus - Occupational Exposure Limits** | |
| Local name | Οξικό οξύ |
| OEL TWA | 25 mg/m³ |
| | 10 ppm |

| acetic acid (64-19-7) | |
|---|---|
| OEL STEL | 50 mg/m³ |
| | 20 ppm |
| Regulatory reference | Κανονισμοί του 2019 (Κ.Δ.Π. 16/2019) |
| **Czech Republic - Occupational Exposure Limits** | |
| Local name | Kyselina octová (Kyselina ethanová) |
| PEL (OEL TWA) | 25 mg/m³ |
| | 10 ppm |
| NPK-P (OEL C) | 50 mg/m³ |
| | 20 ppm |
| Remark | I - dráždí sliznice (oči, dýchací cesty) resp. kůži. |
| Regulatory reference | Nařízení vlády č. 361/2007 Sb. (Předpis 330/2023 Sb.) |
| **Denmark - Occupational Exposure Limits** | |
| Local name | Eddikesyre (Ethansyre) |
| OEL TWA | 25 mg/m³ |
| | 10 ppm |
| OEL STEL | 50 mg/m³ |
| | 20 ppm |
| Remark | E (betyder, at stoffet har en EF-grænseværdi) |
| Regulatory reference | BEK nr 291 af 19/03/2024 |
| **Estonia - Occupational Exposure Limits** | |
| Local name | Etaanhape (äädikhape) |
| OEL TWA | 25 mg/m³ |
| | 10 ppm |
| OEL STEL | 25 mg/m³ |
| | 10 ppm |
| Regulatory reference | Vabariigi Valitsuse 20. märtsi 2001. a määruse nr 105 (RT I, 02.04.2024, 13) |
| **Finland - Occupational Exposure Limits** | |
| Local name | Etikkahappo |
| HTP (OEL TWA) | 13 mg/m³ |
| | 5 ppm |
| HTP (OEL STEL) | 25 mg/m³ |
| | 10 ppm |
| Regulatory reference | HTP-ARVOT 2020 (Sosiaali- ja terveysministeriö) |
| **France - Occupational Exposure Limits** | |
| Local name | Acide acétique |
| VME (OEL TWA) | 25 mg/m³ |
| | 10 ppm |
| VLE (OEL C/STEL) | 50 mg/m³ |
| | 20 ppm |

| acetic acid (64-19-7) | |
|---|---|
| Remark | Valeurs règlementaires indicatives |
| Regulatory reference | Arrêté du 30 juin 2004 modifié (réf.: INRS ED 6443, 2022; Outil65; Arrête du 27 septembre 2019) |
| **Germany - Occupational Exposure Limits (TRGS 900)** | |
| Local name | Essigsäure |
| AGW (OEL TWA) | 25 mg/m³ |
| | 10 ppm |
| Peak exposure limitation factor | 2(I) |
| Remark | DFG - Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe der DFG (MAK-Kommission); EU - Europäische Union (Von der EU wurde ein Luftgrenzwert festgelegt: Abweichungen bei Wert und Spitzenbegrenzung sind möglich); Y - Ein Risiko der Fruchtschädigung braucht bei Einhaltung des Arbeitsplatzgrenzwertes und des biologischen Grenzwertes (BGW) nicht befürchtet zu werden |
| Regulatory reference | TRGS900 |
| **Gibraltar - Occupational Exposure Limits** | |
| Local name | Acetic acid |
| OEL TWA | 25 mg/m³ |
| | 10 ppm |
| OEL STEL | 50 mg/m³ |
| | 20 ppm |
| Regulatory reference | Factories (Control of Chemical Agents at Work) Regulations 2003 (LN. 2018/181) |
| **Greece - Occupational Exposure Limits** | |
| Local name | Οξικό οξύ |
| OEL TWA | 25 mg/m³ |
| | 10 ppm |
| OEL STEL | 37 mg/m³ |
| | 15 ppm |
| Regulatory reference | Π.Δ. 90/1999 - Προστασία της υγείας των εργαζομένων που εκτίθενται σε ορισμένους χημικούς παράγοντες κατά τη διάρκεια της εργασίας τους |
| **Hungary - Occupational Exposure Limits** | |
| Local name | ECETSAV |
| AK (OEL TWA) | 25 mg/m³ |
| | 10 ppm |
| CK (OEL STEL) | 50 mg/m³ |
| | 20 ppm |
| Remark | m (maró hatású anyag, amely felmarja a bőrt, nyálkahártyát, szemet vagy mindhármat); EU4 (2017/164 EU irányelvben közölt érték); N (Irritáló anyagok, egyszerű fojtógázok, csekély egészségkárosító hatással bíró anyagok) |
| Regulatory reference | 5/2020. (II. 6.) ITM rendelet - A kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről |
| **Ireland - Occupational Exposure Limits** | |
| Local name | Acetic acid |

| acetic acid (64-19-7) | |
|---|---|
| OEL TWA | 25 mg/m³ |
| | 10 ppm |
| OEL STEL | 50 mg/m³ |
| | 20 ppm |
| Remark | IOELV (Indicative Occupational Exposure Limit Values) |
| Regulatory reference | Chemical Agents Code of Practice 2024 |
| **Italy - Occupational Exposure Limits** | |
| Local name | Acido acetico |
| OEL TWA | 25 mg/m³ |
| | 10 ppm |
| OEL STEL | 50 mg/m³ |
| | 20 ppm |
| Regulatory reference | Allegato XXXVIII del Decreto Legislativo 4 settembre 2024, n. 135 |
| **Latvia - Occupational Exposure Limits** | |
| Local name | Etiķskābe (etānskābe) |
| OEL TWA | 25 mg/m³ |
| | 10 ppm |
| OEL STEL | 50 mg/m³ |
| | 20 ppm |
| Regulatory reference | Ministru kabineta 2007. gada 15. maija noteikumiem Nr. 325 (Grozījumi Ministru kabineta 2024. gada 26. martā noteikumiem Nr. 191). |
| **Lithuania - Occupational Exposure Limits** | |
| Local name | Acto rūgštis |
| IPRV (OEL TWA) | 25 mg/m³ |
| | 10 ppm |
| TPRV (OEL STEL) | 50 mg/m³ |
| | 20 ppm |
| Regulatory reference | LIETUVOS HIGIENOS NORMA HN 23:2011 (Nr. V-695/A1-272, 2018-06-12) |
| **Luxembourg - Occupational Exposure Limits** | |
| Local name | Acide acétique |
| OEL TWA | 25 mg/m³ |
| | 10 ppm |
| OEL STEL | 50 mg/m³ |
| | 20 ppm |
| Regulatory reference | Mémorial A Nº 226 de 2021 concernant la protection de la sécurité et de la santé des salariés contre les risques liés à des agents chimiques sur le lieu de travail |
| **Malta - Occupational Exposure Limits** | |
| Local name | Acetic acid |
| OEL TWA | 25 mg/m³ |
| | 10 ppm |

| acetic acid (64-19-7) | |
|---|---|
| OEL STEL | 50 mg/m³ |
| | 20 ppm |
| Regulatory reference | S.L. 424.24 - Chemical Agents at Work Regulations (L.N. 356 of 2021) # L.S. 424.24 - Regolamenti dwar Aġenti Kimiċi fuq il-Post tax-Xogħol (A.L. 356 tal-2021) |
| **Poland - Occupational Exposure Limits** | |
| Local name | Kwas octowy |
| NDS (OEL TWA) | 25 mg/m³ |
| | 10 ppm |
| NDSCh (OEL STEL) | 50 mg/m³ |
| | 20 ppm |
| Regulatory reference | Dz. U. 2024 poz. 1017 wraz z późn. zm. |
| **Portugal - Occupational Exposure Limits** | |
| Local name | Ácido acético |
| OEL TWA | 10 ppm |
| OEL STEL | 15 ppm |
| Regulatory reference | Norma Portuguesa NP 1796:2014 |
| **Romania - Occupational Exposure Limits** | |
| Local name | Acid acetic |
| OEL TWA | 25 mg/m³ |
| | 10 ppm |
| OEL STEL | 50 mg/m³ |
| | 20 ppm |
| Regulatory reference | Hotărârea Guvernului nr. 1.218/2006 (Hotărârea nr. 179/2024) |
| **Serbia - Occupational Exposure Limits** | |
| Local name | сирћетна киселина |
| OEL TWA | 25 mg/m³<br>20 mg/m³<br>50 mg/m³ |
| | 10 ppm |
| Remark | ЕУ**** – напомена да се ради о хемијским материјама за које су утврђене индикативне граничне вредности изложености према Директиви 2017/164/ЕУ (четврта листа) |
| Regulatory reference | ПРАВИЛНИК о превентивним мерама за безбедан и здрав рад при излагању хемијским материјама („Службени гласник РС”, бр. 106/09, 117/17 и 107/21) |
| **Slovakia - Occupational Exposure Limits** | |
| Local name | Kyselina octová (kyselina etánová) |
| NPHV (OEL TWA) | 25 mg/m³ |
| | 10 ppm |
| NPHV (OEL STEL) | 50 mg/m³ |
| | 20 ppm |
| Regulatory reference | Nariadenie vlády č. 355/2006 Z. z. (122/2024 Z. z.) |

| acetic acid (64-19-7) | |
|---|---|
| **Spain - Occupational Exposure Limits** | |
| Local name | Ácido acético |
| VLA-ED (OEL TWA) | 25 mg/m³ |
| | 10 ppm |
| VLA-EC (OEL STEL) | 50 mg/m³ |
| | 20 ppm |
| Remark | VLI (Agente químico para el que la U.E. estableció en su día un valor límite indicativo). |
| Regulatory reference | Límites de Exposición Profesional para Agentes Químicos en España 2024. INSHT |
| **Sweden - Occupational Exposure Limits** | |
| Local name | Ättiksyra |
| NGV (OEL TWA) | 13 mg/m³ |
| | 5 ppm |
| KGV (OEL STEL) | 25 mg/m³ |
| | 10 ppm |
| Regulatory reference | Hygieniska gränsvärden (AFS 2018:1) |
| **United Kingdom - Occupational Exposure Limits** | |
| Local name | Acetic acid |
| WEL TWA (OEL TWA) | 25 mg/m³ |
| | 10 ppm |
| WEL STEL (OEL STEL) | 50 mg/m³ |
| | 20 ppm |
| Regulatory reference | EH40/2005 (Fourth edition, 2020). HSE |
| **Iceland - Occupational Exposure Limits** | |
| Local name | Ediksýra |
| OEL TWA | 25 mg/m³ |
| | 10 ppm |
| OEL STEL | 50 mg/m³ |
| | 20 ppm |
| Regulatory reference | Reglugerð um mengunarmörk og aðgerðir til að draga úr mengun á vinnustöðum (Nr. 1069/2018) |
| **Norway - Occupational Exposure Limits** | |
| Local name | Eddiksyre |
| Grenseverdi (OEL TWA) | 25 mg/m³ |
| | 10 ppm |
| Korttidsverdi (OEL STEL) | 50 mg/m³ |
| | 20 ppm |
| Remark | A: Kjemikalier som skal betraktes som at de fremkaller allergi eller annen overfølsomhet i øynene eller luftveier, eller som skal betraktes som at de fremkaller allergi ved hudkontakt; E: EU har en veiledende grenseverdi og/eller anmerkning for stoffet. |
| Regulatory reference | FOR-2024-04-05-581 |

| acetic acid (64-19-7) | |
|---|---|
| **North Macedonia - Occupational Exposure Limits** | |
| Local name | Оцетна киселина |
| OEL TWA | 25 mg/m³ |
| | 10 ppm |
| Remark | (EU) European Union – гранична вредност, определена на ниво на Европската унија |
| Regulatory reference | Правилник за минималните барања за безбедност и здравје при работа на вработени од ризици поврзани со изложување на хемиски супстанци („Службен весник на Република Македонија” бр.46/10) |
| **Switzerland - Occupational Exposure Limits** | |
| Local name | Acide acétique / Essigsäure |
| MAK (OEL TWA) | 25 mg/m³ |
| | 10 ppm |
| KZGW (OEL STEL) | 50 mg/m³ |
| | 20 ppm |
| Notation | $SS_C$ / $SS_C$ |
| Remark | NIOSH, OSHA |
| Regulatory reference | www.suva.ch, 01.01.2024 |
| **USA - ACGIH - Occupational Exposure Limits** | |
| Local name | Acetic acid |
| ACGIH OEL TWA | 10 ppm |
| ACGIH OEL STEL | 15 ppm |
| Remark (ACGIH) | TLV® Basis: URT & eye irr; pulm func |
| Regulatory reference | ACGIH 2024 |

## 8.2. Exposure controls

### Appropriate engineering controls

**Appropriate engineering controls:**
Ensure good ventilation of the work station.

### Personal protection equipment

**Personal protective equipment:**
Avoid all unnecessary exposure. Personal protective equipment should be chosen according to the CEN standards and in discussion with the supplier of the protective equipment.

**Personal protective equipment symbol(s):**

### Eye and face protection

**Eye protection:**
Safety glasses

### Skin protection

**Skin and body protection:**
Wear suitable protective clothing

**Hand protection:**
Protective gloves

### Respiratory protection

**Respiratory protection:**
In case of insufficient ventilation, wear suitable respiratory equipment

### Environmental exposure controls

**Environmental exposure controls:**
Avoid release to the environment.

## SECTION 9: Physical and chemical properties

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

| | | |
|---|---|---|
| Physical state | : | Liquid |
| Colour | : | Not available |
| Odour | : | Irritating. Pungent. vinegar odour. |
| Odour threshold | : | Not available |
| Melting point | : | Not applicable |
| Freezing point | : | Not available |
| Boiling point | : | 117.9 °C 101,325 kPa |
| Flammability | : | Flammable liquid and vapour. |
| Lower explosion limit | : | Not available |
| Upper explosion limit | : | Not available |
| Flash point | : | 39 °C 101,3 kPa |
| Auto-ignition temperature | : | 485 °C |
| Decomposition temperature | : | Not available |
| pH | : | < 2 |
| Viscosity, kinematic | : | Not available |
| Viscosity, dynamic | : | 1056 mPa·s |
| Solubility | : | Soluble in water. Soluble in ethanol. Soluble in ether. Soluble in acetone. Soluble in tetrachloromethane. Soluble in glycerol. Soluble in dimethyl sulfoxide. |
| Partition coefficient n-octanol/water (Log Kow) | : | Not available |
| Vapour pressure | : | 20.79 hPa 25 °C |
| Vapour pressure at 50°C | : | 75 hPa |
| Density | : | Not available |
| Relative density | : | 1 |
| Relative vapour density at 20°C | : | Not available |
| Particle characteristics | : | Not applicable |

### 9.2. Other information

#### Information with regard to physical hazard classes

| | | |
|---|---|---|
| Explosion limits | : | 4 – 19 vol %<br>100 – 430 g/m³ |

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Flammable liquid and vapour.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## 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

| C.I. Basic Violet 3; 4-[4,4'-bis(dimethylamino) benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (548-62-9) | |
|---|---|
| LD50 oral rat | 420 mg/kg |

| acetic acid (64-19-7) | |
|---|---|
| LD50 oral rat | 3310 mg/kg bodyweight |

Skin corrosion/irritation : Causes severe skin burns.
pH: < 2

| C.I. Basic Violet 3; 4-[4,4'-bis(dimethylamino) benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (548-62-9) | |
|---|---|
| pH | 5 (1 %) |

| acetic acid (64-19-7) | |
|---|---|
| pH | 2.4 |

Serious eye damage/irritation : Causes serious eye damage.
pH: < 2

| C.I. Basic Violet 3; 4-[4,4'-bis(dimethylamino) benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (548-62-9) | |
|---|---|
| pH | 5 (1 %) |

| acetic acid (64-19-7) | |
|---|---|
| pH | 2.4 |

Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

| C.I. Basic Violet 3; 4-[4,4'-bis(dimethylamino) benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (548-62-9) | |
|---|---|
| NOAEL (chronic, oral, animal/male, 2 years) | 225 mg/kg bodyweight mouse |
| NOAEL (chronic, oral, animal/female, 2 years) | 100 mg/kg bodyweight mouse |

Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : Not classified

| acetic acid (64-19-7) | |
|---|---|
| NOAEL (oral, rat, 90 days) | 290 mg/kg bodyweight |

Aspiration hazard : Not classified

| C.I. Basic Violet 3; 4-[4,4'-bis(dimethylamino) benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (548-62-9) | |
|---|---|
| Viscosity, kinematic | Not applicable |

| acetic acid (64-19-7) | |
|---|---|
| Viscosity, kinematic | 1015.385 mm²/s |

### 11.2. Information on other hazards

No additional information available

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : Harmful to aquatic life with long lasting effects.
Hazardous to the aquatic environment, short–term (acute) : Not classified
Hazardous to the aquatic environment, long–term (chronic) : Harmful to aquatic life with long lasting effects.

| C.I. Basic Violet 3; 4-[4,4'-bis(dimethylamino) benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (548-62-9) | |
|---|---|
| LC50 - Fish [1] | 0.082 mg/l Pimephales promelas (Fathead minnow) |
| EC50 - Crustacea [1] | 0.24 – 0.5 mg/l Daphnia magna (Water flea) |
| EC50 72h - Algae [1] | 0.21 mg/l Pseudokirchneriella subcapitata |

| acetic acid (64-19-7) | |
|---|---|
| LC50 - Fish [1] | > 1000 mg/l Oncorhynchus mykiss (Rainbow trout) |
| EC50 - Crustacea [1] | > 1000 mg/l Daphnia magna (Water flea) |
| EC50 72h - Algae [1] | > 1000 mg/l Skeletonema costatum (marine diatom) |

### 12.2. Persistence and degradability

| British Pharmacopoeia Reagent - Crystal Violet Solution | |
|---|---|
| Persistence and degradability | Rapidly degradable |

| C.I. Basic Violet 3; 4-[4,4'-bis(dimethylamino) benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (548-62-9) | |
|---|---|
| Persistence and degradability | Rapidly degradable |

| acetic acid (64-19-7) | |
|---|---|
| Persistence and degradability | Readily biodegradable in water, Biodegradable in soil, Very mobile in soil. |
| Biochemical oxygen demand (BOD) | 0.6 – 0.74 g $O_2$/g substance |
| Chemical oxygen demand (COD) | 1.03 g $O_2$/g substance |
| ThOD | 1.07 g $O_2$/g substance |

### 12.3. Bioaccumulative potential

| C.I. Basic Violet 3; 4-[4,4'-bis(dimethylamino) benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (548-62-9) | |
|---|---|
| Partition coefficient n-octanol/water (Log Pow) | 0.51 |
| Bioaccumulative potential | Low bioaccumulation potential (Log Kow < 4). |

| acetic acid (64-19-7) | |
|---|---|
| Partition coefficient n-octanol/water (Log Pow) | -0.17 (25 °C) |
| Bioaccumulative potential | Low bioaccumulation potential (Log Kow < 4). |

### 12.4. Mobility in soil

| acetic acid (64-19-7) | |
|---|---|
| Surface tension | 0.028 N/m (20 °C) |
| Ecology - soil | May be harmful to plant growth, blooming and fruit formation. |

### 12.5. Results of PBT and vPvB assessment

| Component | |
|---|---|
| Substance(s) not meeting the PBT criteria of REACH regulation, in accordance with Annex XIII | C.I. Basic Violet 3; 4-[4,4'-bis(dimethylamino) benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (548-62-9), acetic acid (64-19-7) |
| Substance(s) not meeting the vPvB criteria of REACH regulation, in accordance with Annex XIII | C.I. Basic Violet 3; 4-[4,4'-bis(dimethylamino) benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (548-62-9), acetic acid (64-19-7) |

### 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

Regional waste regulation : Disposal must be done according to official regulations.
Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations : Disposal must be done according to official regulations.
Product/Packaging disposal recommendations : Disposal must be done according to official regulations.
Additional information : Flammable vapours may accumulate in the container. Do not re-use empty containers.

## SECTION 14: Transport information

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

| ADR | IMDG | IATA | ADN | RID |
|---|---|---|---|---|
| **14.1. UN number or ID number** | | | | |
| UN 2789 | UN 2789 | UN 2789 | UN 2789 | UN 2789 |
| **14.2. UN proper shipping name** | | | | |
| ACETIC ACID SOLUTION | ACETIC ACID SOLUTION | Acetic acid solution | ACETIC ACID SOLUTION | ACETIC ACID SOLUTION |
| **Transport document description** | | | | |
| UN 2789 ACETIC ACID SOLUTION, 8 (3), II, (D/E) | UN 2789 ACETIC ACID SOLUTION, 8 (3), II | UN 2789 Acetic acid solution, 8 (3), II | UN 2789 ACETIC ACID SOLUTION, 8 (3), II | UN 2789 ACETIC ACID SOLUTION, 8 (3), II |
| **14.3. Transport hazard class(es)** | | | | |
| 8 (3) | 8 (3) | 8 (3) | 8 (3) | 8 (3) |

| ADR | IMDG | IATA | ADN | RID |
|---|---|---|---|---|
|  |  |  |  |  |
| **14.4. Packing group** | | | | |
| II | II | II | II | II |
| **14.5. Environmental hazards** | | | | |
| Dangerous for the environment: No | Dangerous for the environment: No<br>Marine pollutant: No<br>EmS-No. (Fire): F-E<br>EmS-No. (Spillage): S-C | Dangerous for the environment: No | Dangerous for the environment: No | Dangerous for the environment: No |
| No supplementary information available | | | | |

## 14.6. Special precautions for user

### Overland transport

| | | |
|---|---|---|
| Classification code (ADR) | : | CF1 |
| Limited quantities (ADR) | : | 1l |
| Excepted quantities (ADR) | : | E2 |
| Packing instructions (ADR) | : | P001, IBC02 |
| Mixed packing provisions (ADR) | : | MP15 |
| Portable tank and bulk container instructions (ADR) | : | T7 |
| Portable tank and bulk container special provisions (ADR) | : | TP2 |
| Tank code (ADR) | : | L4BN |
| Vehicle for tank carriage | : | FL |
| Transport category (ADR) | : | 2 |
| Special provisions for carriage - Operation (ADR) | : | S2 |
| Hazard identification number (Kemler No.) | : | 83 |
| Orange plates | : |  |
| Tunnel restriction code (ADR) | : | D/E |
| EAC code | : | •2P |
| APP code | : | A(fl) |

### Transport by sea

| | | |
|---|---|---|
| Packing instructions (IMDG) | : | P001 |
| IBC packing instructions (IMDG) | : | IBC02 |
| Tank instructions (IMDG) | : | T7 |
| Tank special provisions (IMDG) | : | TP2 |
| Stowage category (IMDG) | : | A |
| Properties and observations (IMDG) | : | Colourless flammable liquid with a pungent odour. When pure, crystallizes below 16°C. Flashpoint: 40°C c.c. (pure product) 60°C c.c. (80% solution). Explosive limits: 4% to 17%. Miscible with water. Corrosive to lead and most other metals. Corrosive to skin, eyes and mucous membranes. |

### Air transport

| | | |
|---|---|---|
| PCA Excepted quantities (IATA) | : | E2 |
| PCA Limited quantities (IATA) | : | Y840 |
| PCA limited quantity max net quantity (IATA) | : | 0.5L |
| PCA packing instructions (IATA) | : | 851 |
| PCA max net quantity (IATA) | : | 1L |
| CAO packing instructions (IATA) | : | 855 |
| CAO max net quantity (IATA) | : | 30L |

ERG code (IATA) : 8F

**Inland waterway transport**

Classification code (ADN) : CF1
Limited quantities (ADN) : 1 L
Excepted quantities (ADN) : E2
Carriage permitted (ADN) : T
Equipment required (ADN) : PP, EP, EX, A
Ventilation (ADN) : VE01
Number of blue cones/lights (ADN) : 1

**Rail transport**

Classification code (RID) : CF1
Limited quantities (RID) : 1L
Excepted quantities (RID) : E2
Packing instructions (RID) : P001, IBC02
Mixed packing provisions (RID) : MP15
Portable tank and bulk container instructions (RID) : T7
Portable tank and bulk container special provisions (RID) : TP2
Tank codes for RID tanks (RID) : L4BN
Transport category (RID) : 2
Colis express (express parcels) (RID) : CE6
Hazard identification number (RID) : 83

### 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

**EU-Regulations**

**REACH Annex XVII (Restriction List)**

| EU restriction list (REACH Annex XVII) | | |
|---|---|---|
| **Reference code** | **Applicable on** | **Entry title or description** |
| 3(a) | British Pharmacopoeia Reagent - Crystal Violet Solution ; acetic acid | Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 2.1 to 2.4, 2.6 and 2.7, 2.8 types A and B, 2.9, 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15 types A to F |
| 3(b) | British Pharmacopoeia Reagent - Crystal Violet Solution ; acetic acid | Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10 |
| 3(c) | British Pharmacopoeia Reagent - Crystal Violet Solution | Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard class 4.1 |
| 40. | British Pharmacopoeia Reagent - Crystal Violet Solution ; acetic acid | Substances classified as flammable gases category 1 or 2, flammable liquids categories 1, 2 or 3, flammable solids category 1 or 2, substances and mixtures which, in contact with water, emit flammable gases, category 1, 2 or 3, pyrophoric liquids category 1 or pyrophoric solids category 1, regardless of whether they appear in Part 3 of Annex VI to Regulation (EC) No 1272/2008 or not. |

**REACH Annex XIV (Authorisation List)**

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

### REACH Candidate List (SVHC)

Contains substance(s) listed on the REACH Candidate List in concentrations ≥ 0.1 % or SCL: [4-[4,4'-bis(dimethylamino) benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (C.I. Basic Violet 3) (EC 208-953-6, CAS 548-62-9)

### PIC Regulation (Prior Informed Consent)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

### POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

### Ozone Regulation (2024/590)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 2024/590 on substances that deplete the ozone layer)

### Council Regulation (EC) for the control of dual-use items

Contains no substance subject to the COUNCIL REGULATION (EC) for the control of dual-use items

### 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)

### 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)

### National regulations

#### Germany

| | | |
|---|---|---|
| VOC ordinance (ChemVOCFarbV) | : | |
| Water hazard class (WGK) | : | WGK 3, Highly hazardous to water (Classification according to AwSV, Annex 1). |
| Hazardous Incident Ordinance (12. BImSchV) | : | Is not subject to the Hazardous Incident Ordinance (12. BImSchV) |

#### Netherlands

| | | |
|---|---|---|
| ABM category | : | Z(2) - biodegradable substances with hazardous properties for humans and the environment (carcinogenicity/ mutagenicity/reprotoxicity/bioacumulative potential or toxicity) |
| SZW-lijst van kankerverwekkende stoffen | : | C.I. Basic Violet 3; 4-[4,4'-bis(dimethylamino) benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride is listed |
| SZW-lijst van mutagene stoffen | : | None of the components are listed |
| SZW-lijst van reprotoxische stoffen – Borstvoeding | : | None of the components are listed |
| SZW-lijst van reprotoxische stoffen – Vruchtbaarheid | : | None of the components are listed |
| SZW-lijst van reprotoxische stoffen – Ontwikkeling | : | None of the components are listed |

#### Denmark

| | | |
|---|---|---|
| Class for fire hazard | : | Class II-1 |
| Store unit | : | 5 liter |
| Classification remarks | : | R10 <H226;H314;H412>; 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<br>The requirements from the Danish Working Environment Authorities regarding work with carcinogens must be followed during use and disposal |

### Poland

Polish National Regulations : Act of 25 February 2011 on chemical substances and their mixtures (J. o L. No. 63, item 322 as amended; consolidated text J. o L. 2019, item 1225).
Act of 14 December 2012 on waste (J. o L. 2013, item 322 as amended; consolidated text J. o L. 2020, item 797).
The announcement of Marshal of the Sejm of the Republic of Poland dated 19 October 2016 concerning the consolidated text announcement of the decree on the management of packaging and packaging waste (J. o L. 2016, item 1863 as amended).
Decree of the Minister of Environment of 14 December 2014 on the catalogue of waste (J. o L. 2014, item 1923).
Act of 19 August 2011 on the Carriage of Dangerous Goods (J. o L. 2011 No. 227, item 1367 as amended; consolidated text J. o L. 2020, item 154).
Regulation of the Minister of Family, Labour and Social Policy of 12 June 2018 on the highest permissible concentration and intensity of noxious agents for health at work environment (J. o L. item 1286 as amended).
The announcement of Minister of Health dated 9 September 2016 concerning the consolidated text announcement of the decree of the Minister of Health of 30 December 2004 on health and safety at work related to exposure to chemical agents at work (J. o L. of 16 September 2016, item 1488)
Regulation of the Minister of Health of 2 February 2011 on tests and measurements of the noxious agents for health at work environment (J. o L. No. 33, item 166 as amended).
Regulation of the Minister of Environment of 9 December 2003 on particularly hazardous substances to the environment (J. o L. No. 217, item 2141).
ADR Agreement: Government Statement of 13 March 2023 on the entry into force of amendments to Annexes A and B to the Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), signed in Geneva on 30 September 1957 (J. o. L. 2023, item 891)

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

**Indication of changes**

| Section | Changed item | Comments |
|---|---|---|
| | Number of blue cones/lights (ADN) | **Added** |
| | Ventilation (ADN) | **Added** |
| | Equipment required (ADN) | **Added** |
| | Carriage permitted (ADN) | **Added** |
| | Excepted quantities (ADN) | **Added** |
| | Limited quantities (ADN) | **Added** |
| | Danger labels (ADN) | **Added** |
| | Classification code (ADN) | **Added** |
| | Proper Shipping Name (RID) | **Added** |
| | Hazard identification number (RID) | **Added** |
| | Colis express (express parcels) (RID) | **Added** |
| | Transport category (RID) | **Added** |
| | Tank codes for RID tanks (RID) | **Added** |
| | Portable tank and bulk container special provisions (RID) | **Added** |

| Indication of changes | | |
|---|---|---|
| **Section** | **Changed item** | **Comments** |
| | Portable tank and bulk container instructions (RID) | **Added** |
| | Mixed packing provisions (RID) | **Added** |
| | Packing instructions (RID) | **Added** |
| | Excepted quantities (RID) | **Added** |
| | Limited quantities (RID) | **Added** |
| | Packing group (RID) | **Added** |
| | Classification code (RID) | **Added** |
| | ERG code (IATA) | **Added** |
| | CAO max net quantity (IATA) | **Added** |
| | CAO packing instructions (IATA) | **Added** |
| | PCA max net quantity (IATA) | **Added** |
| | PCA packing instructions (IATA) | **Added** |
| | PCA limited quantity max net quantity (IATA) | **Added** |
| | PCA Limited quantities (IATA) | **Added** |
| | PCA Excepted quantities (IATA) | **Added** |
| | Danger labels (IATA) | **Added** |
| | Proper Shipping Name (IATA) | **Added** |
| | Properties and observations (IMDG) | **Added** |
| | Proper Shipping Name (IMDG) | **Added** |
| | Danger labels (IMDG) | **Added** |
| | EmS-No. (Spillage) | **Added** |
| | EmS-No. (Fire) | **Added** |
| | Stowage category (IMDG) | **Added** |
| | Tank special provisions (IMDG) | **Added** |
| | Tank instructions (IMDG) | **Added** |
| | IBC packing instructions (IMDG) | **Added** |
| | Special provisions for carriage - Operation (ADR) | **Added** |
| | Tank code (ADR) | **Added** |
| | Portable tank and bulk container special provisions (ADR) | **Added** |
| | Portable tank and bulk container instructions (ADR) | **Added** |
| | Mixed packing provisions (ADR) | **Added** |
| | Packing instructions (ADR) | **Added** |
| | Revision date | **Modified** |
| 1.1 | Name | **Modified** |
| 1.2 | Main use category | **Modified** |

| Indication of changes | | |
|---|---|---|
| **Section** | **Changed item** | **Comments** |
| 1.2 | Industrial/Professional use spec | **Removed** |
| 1.2 | Function or use category | **Added** |
| 2.1 | Classification according to Regulation (EC) No. 1272/2008 [CLP] | **Modified** |
| 2.1 | Adverse physicochemical, human health and environmental effects | **Added** |
| 2.2 | Precautionary statements (CLP) | **Modified** |
| 3 | Composition/information on ingredients | **Modified** |
| 4.1 | First-aid measures for first aider | **Added** |
| 4.1 | First-aid measures after eye contact | **Modified** |
| 4.1 | First-aid measures after ingestion | **Modified** |
| 4.1 | First-aid measures after inhalation | **Modified** |
| 4.1 | First-aid measures after skin contact | **Modified** |
| 4.1 | First-aid measures general | **Modified** |
| 4.2 | Symptoms/effects after inhalation | **Added** |
| 4.2 | Symptoms/effects after eye contact | **Added** |
| 4.2 | Symptoms/effects after skin contact | **Added** |
| 4.2 | Symptoms/effects after ingestion | **Added** |
| 4.2 | Symptoms/effects | **Removed** |
| 4.3 | Other medical advice or treatment | **Added** |
| 5.1 | Suitable extinguishing media | **Modified** |
| 5.2 | Explosion hazard | **Added** |
| 5.2 | Hazardous decomposition products in case of fire | **Added** |
| 5.2 | Fire hazard | **Added** |
| 5.3 | Firefighting instructions | **Modified** |
| 5.3 | Protection during firefighting | **Modified** |
| 5.3 | EAC code | **Modified** |
| 6.1 | Emergency procedures | **Modified** |
| 6.1 | Protective equipment | **Added** |
| 6.1 | General measures | **Added** |
| 6.1 | Emergency procedures | **Modified** |
| 6.1 | Protective equipment | **Modified** |
| 6.2 | Environmental precautions | **Modified** |
| 6.3 | For containment | **Added** |
| 6.3 | Other information | **Added** |
| 6.3 | Methods for cleaning up | **Modified** |
| 6.4 | Reference to other sections (8, 13) | **Modified** |
| 7.1 | Additional hazards when processed | **Added** |

| Indication of changes | | |
|---|---|---|
| **Section** | **Changed item** | **Comments** |
| 7.1 | Precautions for safe handling | **Modified** |
| 7.1 | Hygiene measures | **Modified** |
| 7.2 | Packaging materials | **Added** |
| 7.2 | Storage conditions | **Modified** |
| 7.2 | Incompatible materials | **Removed** |
| 7.2 | Incompatible products | **Removed** |
| 7.2 | Technical measures | **Modified** |
| 8.2 | Personal protective equipment | **Modified** |
| 8.2 | Appropriate engineering controls | **Added** |
| 8.2 | Environmental exposure controls | **Added** |
| 8.2 | Eye protection | **Modified** |
| 8.2 | Hand protection | **Modified** |
| 8.2 | Respiratory protection | **Modified** |
| 8.2 | Other information | **Removed** |
| 9 | Flammability | **Modified** |
| 9 | Viscosity, dynamic | **Added** |
| 9 | Vapour pressure | **Added** |
| 9 | Odour | **Modified** |
| 9 | Flash point | **Modified** |
| 9 | Boiling point | **Added** |
| 9 | Vapour pressure at 50°C | **Added** |
| 9 | Melting point | **Added** |
| 9 | Colour | **Removed** |
| 9 | Solubility | **Added** |
| 9 | Relative density | **Added** |
| 9 | Auto-ignition temperature | **Added** |
| 9 | pH | **Added** |
| 9.1 | Explosive limits (g/m³) | **Added** |
| 9.1 | Explosive limits (vol %) | **Added** |
| 10.1 | Reactivity | **Modified** |
| 10.2 | Chemical stability | **Modified** |
| 10.3 | Possibility of hazardous reactions | **Modified** |
| 10.4 | Conditions to avoid | **Modified** |
| 10.5 | Incompatible materials | **Removed** |
| 10.6 | Hazardous decomposition products | **Modified** |
| 11.1 | Potential adverse human health effects and symptoms | **Removed** |
| 11.1 | Additional information | **Removed** |

| Indication of changes | | |
|---|---|---|
| **Section** | **Changed item** | **Comments** |
| 11.1 | Additional information | **Removed** |
| 11.1 | Additional information | **Removed** |
| 11.1 | Additional information | **Removed** |
| 11.1 | Additional information | **Removed** |
| 11.1 | Additional information | **Removed** |
| 11.1 | Additional information | **Removed** |
| 11.1 | Additional information | **Removed** |
| 11.1 | Additional information | **Removed** |
| 12.1 | Ecology - general | **Added** |
| 12.1 | Ecology - water | **Removed** |
| 12.2 | Persistence and degradability | **Removed** |
| 12.3 | Bioaccumulative potential | **Removed** |
| 12.7 | Other information | **Removed** |
| 13.1 | Product/Packaging disposal recommendations | **Modified** |
| 13.1 | Sewage disposal recommendations | **Added** |
| 13.1 | Regional waste regulation | **Added** |
| 13.1 | Additional information | **Added** |
| 13.1 | Waste treatment methods | **Added** |
| 13.1 | Ecological waste information | **Removed** |
| 14.1 | UN-No. (ADN) | **Added** |
| 14.2 | Proper Shipping Name (ADN) | **Added** |
| 14.2 | Proper Shipping Name (ADR) | **Modified** |
| 14.4 | Packing group (ADN) | **Added** |
| 14.4 | Packing group (IATA) | **Added** |
| 14.4 | Packing group (IMDG) | **Added** |
| 14.6 | Packing instructions (IMDG) | **Added** |
| 15.1 | REACH Annex XVII | **Modified** |
| 16 | Abbreviations and acronyms | **Added** |
| 16 | Other information | **Removed** |
| 16 | Data sources | **Removed** |

| Abbreviations and acronyms: | |
|---|---|
| ACGIH | American Conference of Government Industrial Hygienists |
| ADN | European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways |
| ADR | European Agreement concerning the International Carriage of Dangerous Goods by Road |
| ATE | Acute Toxicity Estimate |
| BCF | Bioconcentration factor |

| Abbreviations and acronyms: | |
|---|---|
| BLV | Biological limit value |
| BOD | Biochemical oxygen demand (BOD) |
| CAS-No. | Chemical Abstract Service number |
| CLP | Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008 |
| COD | Chemical oxygen demand (COD) |
| CSA | Chemical safety assessment |
| DMEL | Derived Minimal Effect level |
| DNEL | Derived-No Effect Level |
| EC-No. | European Community number |
| EC50 | Median effective concentration |
| ED | Endocrine disruptor |
| EN | European Standard |
| EWC | European waste catalogue |
| IARC | International Agency for Research on Cancer |
| IATA | International Air Transport Association |
| IMDG | International Maritime Dangerous Goods |
| LC50 | Median lethal concentration |
| LD50 | Median lethal dose |
| LOAEL | Lowest Observed Adverse Effect Level |
| Log Kow | Partition coefficient n-octanol/water (Log Kow) |
| Log Pow | Partition coefficient n-octanol/water (Log Pow) |
| MAK | maximum workplace concentration |
| NOAEC | No-Observed Adverse Effect Concentration |
| NOAEL | No-Observed Adverse Effect Level |
| NOEC | No-Observed Effect Concentration |
| N.O.S. | Not Otherwise Specified |
| OECD | Organisation for Economic Co-operation and Development |
| OEL | Occupational Exposure Limit |
| OSHA | Occupational Safety  Health Administration |
| PBT | Persistent Bioaccumulative Toxic |
| PNEC | Predicted No-Effect Concentration |
| PPE | Personal protection equipment |
| RID | Regulations concerning the International Carriage of Dangerous Goods by Rail |
| SDS | Safety Data Sheet |
| STP | Sewage treatment plant |
| TF | Technical function |
| ThOD | Theoretical oxygen demand (ThOD) |
| TLM | Median Tolerance Limit |
| TWA | Time Weighted Average |

| Abbreviations and acronyms: | |
|---|---|
| VOC | Volatile Organic Compounds |
| vPvB | Very Persistent and Very Bioaccumulative |
| UFI | Unique Formula Identifier |

| Full text of H- and EUH-statements: | |
|---|---|
| Acute Tox. 4 (Oral) | Acute toxicity (oral), Category 4 |
| Aquatic Acute 1 | Hazardous to the aquatic environment – Acute Hazard, Category 1 |
| Aquatic Chronic 1 | Hazardous to the aquatic environment – Chronic Hazard, Category 1 |
| Carc. 2 | Carcinogenicity, Category 2 |
| Eye Dam. 1 | Serious eye damage/eye irritation, Category 1 |
| Eye Irrit. 2 | Serious eye damage/eye irritation, Category 2 |
| Flam. Liq. 3 | Flammable liquids, Category 3 |
| Skin Corr. 1A | Skin corrosion/irritation, Category 1, Sub-Category 1A |
| Skin Corr. 1B | Skin corrosion/irritation, Category 1, Sub-Category 1B |
| Skin Irrit. 2 | Skin corrosion/irritation, Category 2 |
| H226 | Flammable liquid and vapour. |
| H302 | Harmful if swallowed. |
| H314 | Causes severe skin burns and eye damage. |
| H315 | Causes skin irritation. |
| H318 | Causes serious eye damage. |
| H319 | Causes serious eye irritation. |
| H351 | Suspected of causing cancer. |
| H400 | Very toxic to aquatic life. |
| H410 | Very toxic to aquatic life with long lasting effects. |
| H412 | Harmful to aquatic life with long lasting effects. |

| Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]: | | |
|---|---|---|
| Flam. Liq. 3 | H226 | On basis of test data |
| Skin Corr. 1 | H314 | On basis of test data |
| Eye Dam. 1 | H318 | On basis of test data |
| Aquatic Chronic 3 | H412 | Calculation method |

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.