# Acetic Acid ($C_2H_4O_2$)

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
Issue date: 6/6/2022 Revision date: 6/6/2022 Version: 1.0 SDS number: P2022052304

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

### 1.1. Product identifier

| | | |
|---|---|---|
| Product form | : | Substance |
| Trade name | : | Acetic Acid ($C_2H_4O_2$) |
| Chemical name | : | Acetic Acid |
| EC Index-No. | : | 607-002-00-6 |
| EC-No. | : | 200-580-7 |
| CAS-No. | : | 64-19-7 |
| REACH Registration Number | : | 01-2119475328-30-0163 |

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

#### 1.2.1. Relevant identified uses

| | | |
|---|---|---|
| Use of the substance/mixture | : | It is widely used in commercial organic synthesis as a chemical reactant for various acetates, acetyl compounds, acetate rayon, plastics, and rubber; in tanning, printing and dyeing of fabric. Also used as an acidulant and preservative in foods. Solvent for many substances. |

#### 1.2.2. Uses advised against

No additional information available

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

Sahara International Petrochemical Company (Sipchem)
Saudi Arabia, Jubail Industrial City 31961, P.O Box 12021.
T 966 13 359 9999
complianceps@sipchem.com - https://www.sipchem.com

### 1.4. Emergency telephone number

T +966 13 359 9985 (24 × 7)

## 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, Sub-Category 1A | H314 |

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.

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

## 2.2. Label elements

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

Hazard pictograms (CLP) :

GHS02 GHS05

Signal word (CLP) : Danger

Hazard statements (CLP) : H226 - Flammable liquid and vapour.
H314 - Causes severe skin burns and eye damage.

Precautionary statements (CLP) : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P235 - Keep cool.
P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
P280 - Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
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/vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

The substance is not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605

# SECTION 3: Composition/information on ingredients

## 3.1. Substances

Name : Acetic Acid ($C_2H_4O_2$)

| Name | Product identifier | % |
|---|---|---|
| Acetic Acid | CAS-No.: 64-19-7<br>EC-No.: 200-580-7<br>EC Index-No.: 607-002-00-6<br>REACH Registration No. 01-2119475328-30-0163 | 100% |

## 3.2. Mixtures

Not applicable

# SECTION 4: First aid measures

## 4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible). Call a physician immediately.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Allow affected person to breathe fresh air. Allow the victim to rest.

First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Rinse skin with water/shower. Take off immediately all contaminated clothing. Call a physician immediately.

First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists. 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. Obtain emergency medical attention. Do not induce vomiting. Call a physician immediately.

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

Symptoms/effects : Not expected to present a significant hazard under anticipated conditions of normal use.

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 : Foam. Dry powder. Carbon dioxide. Water spray. Sand.

Unsuitable extinguishing media : Do not use a heavy water stream.

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

Fire hazard : On combustion forms: carbon oxides

Hazardous decomposition products in case of fire : Toxic fumes may be released.

### 5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.

Protective equipment for firefighters : Do not enter fire area without proper protective equipment, including respiratory protection. 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

#### 6.1.1. For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

Emergency procedures : Ventilate spillage area. Evacuate unnecessary personnel. No open flames, no sparks, and no smoking. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray.

#### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. For further information refer to section 8: "Exposure controls/personal protection".

Emergency procedures : Ventilate area.

### 6.2. Environmental precautions

Avoid release to the environment. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

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

Methods for cleaning up : Take up liquid spill into absorbent material. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials. 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 8: "Exposure controls/personal protection". For disposal of residues refer to section 13 : "Disposal considerations".

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Provide good ventilation in process area to prevent formation of vapour. 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 hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. 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 : Keep container tightly closed in a cool, well-ventilated place. Keep container closed when not in use. Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

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

| Acetic Acid (64-19-7) | |
|---|---|
| **EU - Indicative Occupational Exposure Limit (IOEL)** | |
| Local name | Acetic Acid |
| IOEL TWA | 25 mg/m³ |
| IOEL TWA [ppm] | 10 ppm |
| IOEL STEL | 50 mg/m³ |

| Acetic Acid (64-19-7) | |
|---|---|
| IOEL STEL [ppm] | 20 ppm |
| Regulatory reference | COMMISSION DIRECTIVE (EU) 2017/164 |
| **Austria - Occupational Exposure Limits** | |
| Local name | Essigsäure |
| MAK (OEL TWA) | 25 mg/m³ |
| MAK (OEL TWA) [ppm] | 10 ppm |
| MAK (OEL STEL) | 50 mg/m³ |
| MAK (OEL STEL) [ppm] | 20 ppm |
| Regulatory reference | BGBl. II Nr. 156/2021 |
| **Belgium - Occupational Exposure Limits** | |
| Local name | Acide acétique # Azijnzuur |
| OEL TWA | 25 mg/m³ |
| OEL TWA [ppm] | 10 ppm |
| OEL STEL | 38 mg/m³ |
| OEL STEL [ppm] | 15 ppm |
| Regulatory reference | Koninklijk besluit/Arrêté royal 11/05/2021 |
| **Bulgaria - Occupational Exposure Limits** | |
| Local name | Оцетна киселина |
| OEL TWA | 25 mg/m³ |
| OEL TWA [ppm] | 10 ppm |
| OEL STEL | 50 mg/m³ |
| OEL STEL [ppm] | 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. 47 от 2021 г., в сила от 04.06.2021 г.) |
| **Croatia - Occupational Exposure Limits** | |
| Local name | Octena kiselina |
| GVI (OEL TWA) [1] | 25 mg/m³ |
| GVI (OEL TWA) [2] | 10 ppm |
| KGVI (OEL STEL) | 50 mg/m³ |
| KGVI (OEL STEL) [ppm] | 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 1/2021) |

| Acetic Acid (64-19-7) | |
|---|---|
| **Cyprus - Occupational Exposure Limits** | |
| Local name | Οξικό οξύ |
| OEL TWA | 25 mg/m³ |
| OEL TWA [ppm] | 10 ppm |
| OEL STEL | 50 mg/m³ |
| OEL STEL [ppm] | 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 |
| PEL (OEL TWA) [ppm] | 10.2 ppm |
| NPK-P (OEL C) | 35 mg/m³ |
| NPK-P (OEL C) [ppm] | 14.28 ppm |
| Regulatory reference | Nařízení vlády č. 361/2007 Sb. (Předpis 195/2021 Sb.) |
| **Denmark - Occupational Exposure Limits** | |
| Local name | Eddikesyre (Ethansyre) |
| OEL TWA [1] | 25 mg/m³ |
| OEL TWA [2] | 10 ppm |
| OEL STEL | 50 mg/m³ |
| OEL STEL [ppm] | 20 ppm |
| Remark | E (betyder, at stoffet har en EF-grænseværdi) |
| Regulatory reference | BEK nr 2203 af 29. november 2021 |
| **Estonia - Occupational Exposure Limits** | |
| Local name | Etaanhape (äädikhape) |
| OEL TWA | 25 mg/m³ |
| OEL TWA [ppm] | 10 ppm |
| OEL STEL | 25 mg/m³ |
| OEL STEL [ppm] | 10 ppm |
| Regulatory reference | Vabariigi Valitsuse 20. märtsi 2001. a määruse nr 105 (RT I, 15.05.2021, 1) |
| **Finland - Occupational Exposure Limits** | |
| Local name | Etikkahappo |
| HTP (OEL TWA) [1] | 13 mg/m³ |
| HTP (OEL TWA) [2] | 5 ppm |
| HTP (OEL STEL) | 25 mg/m³ |
| HTP (OEL STEL) [ppm] | 10 ppm |

| Acetic Acid (64-19-7) | |
|---|---|
| Regulatory reference | HTP-ARVOT 2020 (Sosiaali- ja terveysministeriö) |
| **France - Occupational Exposure Limits** | |
| Local name | Acide acétique |
| VME (OEL TWA) | 25 mg/m³ |
| VME (OEL TWA) [ppm] | 10 ppm |
| VLE (OEL C/STEL) | 25 mg/m³ |
| VLE (OEL C/STEL) [ppm] | 10 ppm |
| Remark | Valeurs règlementaires indicatives |
| Regulatory reference | Circulaire du Ministère du travail (réf.: Arrête du 27 septembre 2019) |
| **Germany - Occupational Exposure Limits (TRGS 900)** | |
| AGW (OEL TWA) [1] | 25 mg/m³ |
| AGW (OEL TWA) [2] | 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 |
| **Greece - Occupational Exposure Limits** | |
| Local name | Οξικό οξύ |
| OEL TWA | 25 mg/m³ |
| OEL TWA [ppm] | 10 ppm |
| OEL STEL | 37 mg/m³ |
| OEL STEL [ppm] | 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 |
| CK (OEL STEL) | 25 mg/m³ |
| 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 |

| Acetic Acid (64-19-7) | |
|---|---|
| **Ireland - Occupational Exposure Limits** | |
| Local name | Acetic Acid |
| OEL TWA [1] | 25 mg/m³ |
| OEL TWA [2] | 10 ppm |
| OEL STEL | 37 mg/m³ |
| OEL STEL [ppm] | 15 ppm |
| Remark | IOELV (Indicative Occupational Exposure Limit Values) |
| Regulatory reference | Chemical Agents Code of Practice 2021 |
| **Italy - Occupational Exposure Limits** | |
| Local name | Acido Acetico |
| OEL TWA | 25 mg/m³ |
| OEL TWA [ppm] | 10 ppm |
| OEL STEL | 50 mg/m³ |
| OEL STEL [ppm] | 20 ppm |
| Regulatory reference | Allegato XXXVIII del D.Lgs. 9 aprile 2008, n. 81 e s.m.i. |
| **Latvia - Occupational Exposure Limits** | |
| Local name | Etiķskābe (etānskābe) |
| OEL TWA | 25 mg/m³ |
| OEL TWA [ppm] | 10 ppm |
| OEL STEL | 50 mg/m³ |
| OEL STEL [ppm] | 20 ppm |
| Regulatory reference | Ministru kabineta 2007. gada 15. maija noteikumiem Nr. 325 (Grozījumi Ministru kabineta 2018. gada 10. jūlijā noteikumiem Nr. 407) |
| **Lithuania - Occupational Exposure Limits** | |
| Local name | Acto rūgštis |
| IPRV (OEL TWA) | 25 mg/m³ |
| IPRV (OEL TWA) [ppm] | 10 ppm |
| TPRV (OEL STEL) | 50 mg/m³ |
| TPRV (OEL STEL) [ppm] | 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 |
| OEL TWA [ppm] | 10 ppm |
| OEL STEL | 50 mg/m³ |

| Acetic Acid (64-19-7) | |
|---|---|
| OEL STEL [ppm] | 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 |
| OEL TWA [ppm] | 10 ppm |
| OEL STEL | 50 mg/m³ |
| OEL STEL [ppm] | 20 ppm |
| Regulatory reference | S.L.424.24 - Chemical Agents at Work Regulations (L.N.356 of 2021) |
| **Poland - Occupational Exposure Limits** | |
| Local name | Kwas octowy |
| NDS (OEL TWA) | 15 mg/m³ |
| NDSCh (OEL STEL) | 30 mg/m³ |
| Regulatory reference | Dz. U. 2018 poz. 1286 |
| **Portugal - Occupational Exposure Limits** | |
| Local name | Ácido acético |
| OEL TWA [ppm] | 10 ppm |
| OEL STEL [ppm] | 15 ppm |
| Regulatory reference | Norma Portuguesa NP 1796:2014 |
| **Romania - Occupational Exposure Limits** | |
| Local name | Acid Acetic |
| OEL TWA | 25 mg/m³ |
| OEL TWA [ppm] | 10 ppm |
| OEL STEL | 50 mg/m³ |
| OEL STEL [ppm] | 20 ppm |
| Regulatory reference | Hotărârea Guvernului nr. 1.218/2006 (Hotărârea nr. 53/2021) |
| **Slovakia - Occupational Exposure Limits** | |
| Local name | Kyselina octová (kyselina etánová) |
| NPHV (OEL TWA) [1] | 25 mg/m³ |
| NPHV (OEL TWA) [2] | 10 ppm |
| NPHV (OEL STEL) | 50 mg/m³ |
| NPHV (OEL STEL) [ppm] | 20 ppm |
| Regulatory reference | Nariadenie vlády č. 355/2006 Z. z. (236/2020 Z. z.) |

| Acetic Acid (64-19-7) | |
|---|---|
| **Slovenia - Occupational Exposure Limits** | |
| Local name | ocetna kislina |
| OEL TWA | 25 mg/m³ |
| OEL TWA [ppm] | 10 ppm |
| OEL STEL | 50 mg/m³ |
| OEL STEL [ppm] | 20 ppm |
| Remark | Y (Snovi, pri katerih ni nevarnosti za zarodek ob upoštevanju mejnih vrednosti in bat vrednosti), EU |
| Regulatory reference | Uradni list RS, št. 72/2021 z dne 11.5.2021 |
| **Spain - Occupational Exposure Limits** | |
| Local name | Ácido Acético |
| VLA-ED (OEL TWA) [1] | 25 mg/m³ |
| VLA-ED (OEL TWA) [2] | 10 ppm |
| VLA-EC (OEL STEL) | 37 mg/m³ |
| VLA-EC (OEL STEL) [ppm] | 15 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 2022. INSHT |
| **Sweden - Occupational Exposure Limits** | |
| Local name | Ättiksyra |
| NGV (OEL TWA) | 13 mg/m³ |
| NGV (OEL TWA) [ppm] | 5 ppm |
| KTV (OEL STEL) | 25 mg/m³ |
| KTV (OEL STEL) [ppm] | 10 ppm |
| Regulatory reference | Hygieniska gränsvärden (AFS 2018:1) |
| **United Kingdom - Occupational Exposure Limits** | |
| Local name | Acetic Acid |
| WEL TWA (OEL TWA) [1] | 25 mg/m³ |
| WEL TWA (OEL TWA) [2] | 10 ppm |
| WEL STEL (OEL STEL) | 37 mg/m³ |
| WEL STEL (OEL STEL) [ppm] | 15 ppm |
| Regulatory reference | EH40/2005 (Fourth edition, 2020). HSE |
| **Iceland - Occupational Exposure Limits** | |
| Local name | Ediksýra |
| OEL TWA | 25 mg/m³ |
| OEL TWA [ppm] | 10 ppm |
| OEL STEL | 50 mg/m³ |

| Acetic Acid (64-19-7) | |
|---|---|
| OEL STEL [ppm] | 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) [1] | 25 mg/m³ |
| Grenseverdi (OEL TWA) [2] | 10 ppm |
| Korttidsverdi (OEL STEL) | 50 mg/m³ |
| Korttidsverdi (OEL STEL) [ppm] | 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-2021-06-28-2248 |
| **Switzerland - Occupational Exposure Limits** | |
| Local name | Acide acétique / Essigsäure |
| MAK (OEL TWA) [1] | 25 mg/m³ |
| MAK (OEL TWA) [2] | 10 ppm |
| KZGW (OEL STEL) | 50 mg/m³ |
| KZGW (OEL STEL) [ppm] | 20 ppm |
| Critical toxicity | VRS, Yeux / OAW, Auge |
| Notation | $SS_C$ / $SS_C$ |
| Remark | max. 8x5 min/8h |
| Regulatory reference | www.suva.ch, 01.01.2021 |

### 8.1.2. Recommended monitoring procedures

No additional information available

### 8.1.3. Air contaminants formed

No additional information available

### 8.1.4. DNEL and PNEC

| Ingredient | DNELs Exposure Pattern Worker | PNECs Compartment |
|---|---|---|
| Acetic Acid | Inhalation 25 mg/m³ (Local, Chronic)<br>Inhalation 25 mg/m³ (Local, Acute)<br>Inhalation 25 mg/m³ (Local, Chronic) *<br>Inhalation 25 mg/m³ (Local, Acute) * | 3.058 mg/L (Water (Fresh))<br>0.306 mg/L (Water (Marine))<br>11.36 mg/kg sediment dw (Sediment (Fresh Water))<br>1.136 mg/kg sediment dw (Sediment (Marine))<br>0.47 mg/kg soil dw (Soil)<br>85 mg/L (STP) |

* Values for General Population

### 8.1.5. Control banding

No additional information available

## 8.2. Exposure controls

### 8.2.1. Appropriate engineering controls

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

### 8.2.2. Personal protection equipment

**Personal protective equipment:**
Avoid all unnecessary exposure.

#### 8.2.2.1. Eye and face protection

**Eye protection:**
Chemical goggles or safety glasses. Use eye protection according to EN 166. Safety glasses

#### 8.2.2.2. Skin protection

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

**Hand protection:**
Wear protective gloves. Wear suitable gloves tested to EN374

#### 8.2.2.3. Respiratory protection

**Respiratory protection:**
Wear appropriate mask

#### 8.2.2.4. Thermal hazards

No additional information available

### 8.2.3. Environmental exposure controls

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

**Other information:**
Do not eat, drink or smoke during use.

# SECTION 9: Physical and chemical properties

## 9.1. Information on basic physical and chemical properties

| | | |
|---|---|---|
| Physical state | : | Liquid |
| Colour | : | Colourless. |
| Odour | : | vinegar odor. |
| Odour threshold | : | 1 ppm |
| Melting point | : | 17 °C |
| Freezing point | : | Not available |
| Boiling point | : | 118 °C |
| Flammability | : | Flammable. |
| Lower explosion limit | : | 4 vol % @59 °C |
| Upper explosion limit | : | 16 vol % @92 °C |
| Flash point | : | 39 °C |
| Auto-ignition temperature | : | 464 °C |
| Decomposition temperature | : | Not available |
| pH | : | 2.4 |
| Viscosity, kinematic | : | Not available |
| Viscosity, dynamic | : | 1.22 cP @20 °C |
| Solubility | : | Not available |
| Partition coefficient n-octanol/water (Log Kow) | : | Not available |

| | | |
|---|---|---|
| Vapour pressure | : | 11.8 mm Hg 20 °C |
| Vapour pressure at 50 °C | : | Not available |
| Density | : | Not available |
| Relative density | : | 1.0492 |
| Relative vapour density at 20 °C | : | 2.07 |
| Particle characteristics | : | Not applicable |

### 9.2. Other information

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

No additional information available

#### 9.2.2. Other safety characteristics

Relative evaporation rate (butylacetate=1) : 0.97

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Will not polymerize under normal conditions of storage and use.

### 10.2. Chemical stability

The product is stable at normal handling and storage conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use. Hazardous polymerization will not occur.

### 10.4. Conditions to avoid

Avoid heat, flames, sparks and other sources of ignition. Avoid contact with combustible materials and strong oxidizers.

### 10.5. Incompatible materials

combustible materials, amines, oxidizing materials, bases, halogens, acids, peroxides, metals.

### 10.6. Hazardous decomposition products

Carbon oxides, acidic vapors.

## SECTION 11: Toxicological information

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

| | | |
|---|---|---|
| Acute toxicity (oral) | : | Not classified (Based on available data, the classification criteria are not met) |
| Acute toxicity (dermal) | : | Not classified |
| Acute toxicity (inhalation) | : | Not classified |

**Acetic Acid (64-19-7)**

| | |
|---|---|
| LD50 oral rat | 3310-3530 mg/kg (RTECS) |

| | | |
|---|---|---|
| Skin corrosion/irritation | : | Causes severe skin burns.<br>pH: 2.4 |
| Serious eye damage/irritation | : | Assumed to cause serious eye damage<br>pH: 2.4 |

| | | |
|---|---|---|
| Respiratory or skin sensitisation | : | No data available |
| Germ cell mutagenicity | : | Salmonella Typhimurium TA92, TA1535, TA100, TA1537, TA94 and TA98: Negative [OECD 471]<br>Rat: Negative [EU Method B.12 (Mutagenicity - In Vivo Mammalian Erythrocyte Micronucleus Test)] |
| Carcinogenicity | : | No data available |
| Reproductive toxicity | : | No data available |
| STOT-single exposure | : | No data available |
| STOT-repeated exposure | : | No data available |
| Aspiration hazard | : | No data available |

### 11.2. Information on other hazards

#### 11.2.1. Endocrine disrupting properties

No additional information available

#### 11.2.2. Other information

Other information : Likely routes of exposure: ingestion, inhalation, skin and eye

## SECTION 12: Ecological information

### 12.1. Toxicity

Hazardous to the aquatic environment, short–term (acute) : Not classified

Hazardous to the aquatic environment, long–term (chronic) : Not classified

**Acetic Acid (64-19-7)**

| | |
|---|---|
| LC50 fish 96h | > 1 000 mg/L |
| EC50 Daphnia magna 48h | > 300.82 mg/L |
| EC50 Algae 72h | > 300.82 mg/L |

### 12.2. Persistence and degradability

**Acetic Acid ($C_2H_4O_2$) (64-19-7)**

| | |
|---|---|
| Persistence and degradability | Readily biodegradable >100% (OECD Test Guideline 302B , 5 day) |

### 12.3. Bioaccumulative potential

**Acetic Acid ($C_2H_4O_2$) (64-19-7)**

| | |
|---|---|
| Bioaccumulative potential | BCF: 3.16 dimensionless (QSAR) |

### 12.4. Mobility in soil

Koc at 20 °C: 1.153

### 12.5. Results of PBT and vPvB assessment

the substance is not PBT / vPvB

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

### 12.6. Endocrine disrupting properties

No additional information available

### 12.7. Other adverse effects

Additional information : Avoid release to the environment.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.
Additional information : Flammable vapours may accumulate in the container.
Ecology - waste materials : Avoid release to the environment.

## 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, Glacial | Acetic Acid, Glacial | Acetic Acid, Glacial | Acetic Acid, Glacial | Acetic Acid, Glacial |
| **Transport document description** | | | | |
| Un 2789 Acetic Acid, Glacial, 8 (3), ii, (d/e) | Un 2789 Acetic Acid, Glacial, 8 (3), ii | Un 2789 Acetic Acid, Glacial, 8 (3), ii | Un 2789 Acetic Acid, Glacial, 8 (3), ii | Un 2789 Acetic Acid, Glacial, 8 (3), ii |
| **14.3. Transport hazard class(es)** | | | | |
| 8 (3) | 8 (3) | 8 (3) | 8 (3) | 8 (3) |
|  |  |  |  |  |
| **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 | 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 |

**Transport by sea**

| | | |
|---|---|---|
| Limited quantities (IMDG) | : | 1 L |
| Excepted quantities (IMDG) | : | E2 |
| Packing instructions (IMDG) | : | P001 |
| IBC packing instructions (IMDG) | : | IBC02 |
| Tank instructions (IMDG) | : | T7 |
| Tank special provisions (IMDG) | : | TP2 |
| EmS-No. (Fire) | : | F-E |
| EmS-No. (Spillage) | : | S-C |
| Stowage category (IMDG) | : | A |
| Segregation (IMDG) | : | SGG1, SG36, SG49 |
| 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

#### 15.1.1. EU-Regulations

No REACH Annex XVII restrictions
Acetic Acid ($C_2H_4O_2$) is not on the REACH Candidate List
Acetic Acid ($C_2H_4O_2$) is not on the REACH Annex XIV List
Acetic Acid ($C_2H_4O_2$) is not subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 july 2012 concerning the export and import of hazardous chemicals.
Acetic Acid ($C_2H_4O_2$) is not subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants
Acetic Acid ($C_2H_4O_2$) is not subject to REGULATION (EU) No 1005/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 September 2009 on substances that deplete the ozone layer.
Contains no substance subject to Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 on the marketing and use of explosives precursors.
Contains no substance subject to Regulation (EC) 273/2004 of the European Parliament and of the Council of 11 February 2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances.

#### 15.1.2. National regulations

**Germany**

| | | |
|---|---|---|
| Employment restrictions | : | Observe restrictions according Act on the Protection of Working Mothers (MuSchG)<br>Observe restrictions according Act on the Protection of Young People in Employment (JArbSchG) |
| Water hazard class (WGK) | : | WGK 1, Slightly hazardous to water (Classification according to VwVwS, Annex 1 or 2; ID No. 93) |
| Hazardous Incident Ordinance (12. BImSchV) | : | Is not subject of the Hazardous Incident Ordinance (12. BImSchV) |

**Netherlands**

| | | |
|---|---|---|
| SZW-lijst van kankerverwekkende stoffen | : | The substance is not listed |
| SZW-lijst van mutagene stoffen | : | The substance is not listed |
| SZW-lijst van reprotoxische stoffen – Borstvoeding | : | The substance is not listed |
| SZW-lijst van reprotoxische stoffen – Vruchtbaarheid | : | The substance is not listed |
| SZW-lijst van reprotoxische stoffen – Ontwikkeling | : | The substance is not listed |

**Denmark**

| | | |
|---|---|---|
| Class for fire hazard | : | Class II-1 |
| Store unit | : | 5 liter |
| Classification remarks | : | R10 <H226;H314>; Emergency management guidelines for the storage of flammable liquids must be followed |
| Danish National Regulations | : | Young people under 18 years are not allowed to use the product |

**Switzerland**

| | | |
|---|---|---|
| Storage class (LK) | : | LK 3 - Flammable liquids |

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

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

## SECTION 16: Other information

| Abbreviations and acronyms: | |
|---|---|
| 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 |
| BLV | Biological limit value |
| BOD | Biochemical oxygen demand (BOD) |
| COD | Chemical oxygen demand (COD) |
| DMEL | Derived Minimal Effect level |
| DNEL | Derived-No Effect Level |
| EC-No. | European Community number |
| EC50 | Effective concentration for 50 percent of test population (median effective concentration) |
| EN | European Standard |
| IARC | International Agency for Research on Cancer |
| IATA | International Air Transport Association |
| IMDG | International Maritime Dangerous Goods |
| LC50 | Lethal concentration for 50 percent of test population (median lethal concentration) |
| LD50 | Lethal dose for 50 percent of test population (median lethal dose) |
| LOAEL | Lowest Observed Adverse Effect Level |
| NOAEC | No-Observed Adverse Effect Concentration |
| NOAEL | No-Observed Adverse Effect Level |
| NOEC | No-Observed Effect Concentration |
| OECD | Organisation for Economic Co-operation and Development |
| OEL | Occupational Exposure Limit |
| PBT | Persistent Bioaccumulative Toxic |
| PNEC | Predicted No-Effect Concentration |
| RID | Regulation concerning the International Carriage of Dangerous Goods by Railways |
| SDS | Safety Data Sheet |
| STP | Sewage treatment plant |
| ThOD | Theoretical oxygen demand (ThOD) |
| TLM | Median Tolerance Limit |
| VOC | Volatile Organic Compounds |
| CAS-No. | Chemical Abstract Service number |
| N.O.S. | Not Otherwise Specified |

| Abbreviations and acronyms: | |
|---|---|
| vPvB | Very Persistent and Very Bioaccumulative |
| ED | Endocrine disrupting properties |

| Full text of H- and EUH-statements: | |
|---|---|
| Flam. Liq. 3 | Flammable liquids, Category 3 |
| H226 | Flammable liquid and vapour. |
| H314 | Causes severe skin burns and eye damage. |
| Skin Corr. 1A | Skin corrosion/irritation, Category 1, Sub-Category 1A |

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.