

# BEZPEČNOSTNÍ LIST

podle nařízení Komise (EU) 2020/878, v platném znění

## KYSELINA CITRONOVÁ (monohydrát)

Datum vytvoření 06.06.2025

Datum revize Číslo verze 1.0

### ODDÍL 1: Identifikace látky/směsi a společnosti/podniku

#### 1.1. Identifikátor výrobku

|                   |                                 |
|-------------------|---------------------------------|
| Látka / směs      | KYSELINA CITRONOVÁ (monohydrát) |
| Chemický název    | látka                           |
| Číslo CAS         | kyselina citronová monohydrát   |
| Číslo ES (EINECS) | 5949-29-1                       |
| Registrační číslo | 201-069-1                       |
|                   | 01-2119457026-42-xxxx           |

#### 1.2. Příslušná určená použití látky nebo směsi a nedoporučená použití

##### Určená použití látky

Činidlo upravující kyselost.

##### Nedoporučená použití látky

Produkt nesmí být používán jinými způsoby, než které jsou uvedeny v oddíle 1.

Přílohou bezpečnostního listu je scénář expozice.

#### 1.3. Podrobné údaje o dodavateli bezpečnostního listu

##### Dodavatel

|                           |                                                                               |
|---------------------------|-------------------------------------------------------------------------------|
| Jméno nebo obchodní jméno | BS vinařské potřeby s.r.o.                                                    |
| Adresa                    | Žižkovská 1230a, Velké Bílovice, 69102                                        |
|                           | Česká republika                                                               |
| Identifikační číslo (IČO) | 60738090                                                                      |
| DIČ                       | CZ60738090                                                                    |
| Telefon                   | +420 519 346 238                                                              |
| E-mail                    | info@vinarskepotreby.cz                                                       |
| Adresa www stránek        | <a href="https://www.vinarskepotreby.cz/">https://www.vinarskepotreby.cz/</a> |

##### Osoba odpovědná za bezpečnostní list

|        |                            |
|--------|----------------------------|
| Jméno  | BS vinařské potřeby s.r.o. |
| E-mail | info@vinarskepotreby.cz    |

#### 1.4. Telefonní číslo pro naléhavé situace

Toxikologické informační středisko, Klinika pracovního lékařství Všeobecné fakultní nemocnice v Praze (24 hodinová služba) +420 224 91 92 93, 224 915 402.

### ODDÍL 2: Identifikace nebezpečnosti

#### 2.1. Klasifikace látky nebo směsi

##### Klasifikace látky podle nařízení (ES) č. 1272/2008

Látka je klasifikována jako nebezpečná.

Eye Irrit. 2, H319

**Nejzávažnější nepříznivé účinky na lidské zdraví a životní prostředí**

Způsobuje vážné podráždění očí.

#### 2.2. Prvky označení

##### Výstražný symbol nebezpečnosti



##### Signální slovo

Varování

##### Nebezpečná látka

kyselina citronová monohydrát  
(ES: 201-069-1; CAS: 5949-29-1)

##### Standardní věty o nebezpečnosti

H319 Způsobuje vážné podráždění očí.

|                                                      |            |             |     |
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|                               |                                                                                                                                                                 |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Pokyny pro bezpečné zacházení |                                                                                                                                                                 |
| P101                          | Je-li nutná lékařská pomoc, mějte po ruce obal nebo štítek výrobku.                                                                                             |
| P102                          | Uchovávejte mimo dosah dětí.                                                                                                                                    |
| P264                          | Po manipulaci důkladně omyjte ruce a zasažené části těla.                                                                                                       |
| P280                          | Používejte ochranné brýle.                                                                                                                                      |
| P305+P351+P338                | PŘI ZASAŽENÍ OČÍ: Několik minut opatrně vyplachujte vodou. Vyjměte kontaktní čočky, jsou-li nasazeny a pokud je lze vyjmout snadno. Pokračujte ve vyplachování. |
| P337+P313                     | Přetrvává-li podráždění očí: Vyhledejte lékařskou pomoc/ošetření.                                                                                               |
| P501                          | Odstraňte obsah/obal odevzdáním ve sběrně nebezpečných odpadů.                                                                                                  |

2.3. Další nebezpečnost

Látka nemá vlastnosti vyvolávající narušení endokrinní činnosti v souladu s kritérii stanovenými v nařízení Komise v přenesené pravomoci (EU) 2017/2100 nebo v nařízení Komise (EU) 2018/605. Látka nesplňuje kritéria pro látky PBT nebo vPvB v souladu s přílohou XIII, nařízení (ES) č. 1907/2006 (REACH), v platném znění. Neobsahuje složky PMT/vPvM. Prach může se vzduchem tvořit výbušnou směs.

ODDÍL 3: Složení/informace o složkách

- 3.1. Látky
- Chemická charakteristika
- Níže uvedená látka.

| Identifikační čísla                                                            | Název látky                                                 | Obsah v %<br>hmotnosti | Klasifikace dle nařízení (ES) č.<br>1272/2008 | Pozn. |
|--------------------------------------------------------------------------------|-------------------------------------------------------------|------------------------|-----------------------------------------------|-------|
| CAS: 5949-29-1<br>ES: 201-069-1<br>Registrační číslo:<br>01-2119457026-42-xxxx | <b>hlavní složka látky</b><br>kyselina citronová monohydrát | 100                    | Eye Irrit. 2, H319                            | 1     |

Poznámky

1 Látka, pro kterou jsou stanoveny expoziční limity.

Plný text všech klasifikací a standardních vět o nebezpečnosti je uveden v oddíle 16.

ODDÍL 4: Pokyny pro první pomoc

- 4.1. Popis první pomoci
- Dbejte na vlastní bezpečnost. Projeví-li se zdravotní potíže nebo v případě pochybností, uvědomte lékaře a poskytněte mu informace z tohoto bezpečnostního listu.
- Při vdechnutí**
- Okamžitě přerušte expozici, dopravte postiženého na čerstvý vzduch.
- Při styku s kůží**
- Odložte potřísněný oděv. Omyjte postižené místo velkým množstvím pokud možno vlažné vody. Pokud nedošlo k poranění pokožky, je vhodné použít i mýdlo, mýdlový roztok nebo šampon. Zajistěte lékařské ošetření, přetrvává-li podráždění kůže.
- Při zasažení očí**
- Ihned vyplachujte oči proudem tekoucí vody, rozevřete oční víčka (třeba i násilím); pokud má postižený kontaktní čočky, neprodleně je vyjměte. Výplach provádějte nejméně 10 minut. Zajistěte lékařské, pokud možno odborné ošetření.
- Při požití**
- Vypláchněte ústní dutinu vodou a dejte vypít 2-5 dl vody. U osoby, která má zdravotní obtíže, zajistěte lékařské ošetření.
- 4.2. Nejdůležitější akutní a opožděné symptomy a účinky
- Při vdechnutí**
- Neočekávají se.
- Při styku s kůží**
- Neočekávají se.
- Při zasažení očí**
- Způsobuje vážné podráždění očí.
- Při požití**
- Podráždění, nevolnost.

|                                                      |            |             |     |
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4.3. Pokyn týkající se okamžité lékařské pomoci a zvláštního ošetření  
Léčba symptomatická.

ODDÍL 5: Opatření pro hašení požáru

- 5.1. **Hasiva**  
**Vhodná hasiva**  
Pěna odolná alkoholu, oxid uhličitý, prášek, voda tříštěný proud, vodní mlha.  
**Nevhodná hasiva**  
Voda - plný proud.
- 5.2. **Zvláštní nebezpečnost vyplývající z látky nebo směsi**  
Při požáru může docházet ke vzniku oxidu uhelnatého a uhličitého a dalších toxických plynů. Vdechování nebezpečných rozkladných (pyrolyzních) produktů může způsobit vážné poškození zdraví.
- 5.3. **Pokyny pro hasiče**  
Samostatný dýchací přístroj a protichemický ochranný oblek, pouze je-li pravděpodobný osobní (blízký) kontakt s chemickou látkou. Použijte izolační dýchací přístroj a celotělový ochranný oblek. Kontaminované hasivo nenechte uniknout do kanalizace, povrchových a spodních vod.

ODDÍL 6: Opatření v případě náhodného úniku

- 6.1. **Opatření na ochranu osob, ochranné prostředky a nouzové postupy**  
Používejte osobní ochranné pracovní prostředky. Postupujte podle pokynů obsažených v oddílech 7 a 8. Zabraňte kontaktu s pokožkou a očima.
- 6.2. **Opatření na ochranu životního prostředí**  
Zabraňte kontaminaci půdy a úniku do povrchových nebo spodních vod.
- 6.3. **Metody a materiál pro omezení úniku a pro čištění**  
Produkt vhodným způsobem mechanicky shromážděte. Sebraný materiál odstraňte dle pokynů v oddíle 13.
- 6.4. **Odkaz na jiné oddíly**  
Viz oddíl 7., 8. a 13.

ODDÍL 7: Zacházení a skladování

- 7.1. **Opatření pro bezpečné zacházení**  
Zabraňte tvorbě plynů a par v koncentracích přesahujících nejvyšší přípustné koncentrace pro pracovní ovzduší. Zabraňte kontaktu s pokožkou a očima. Po manipulaci důkladně omyjte ruce a zasažené části těla. Používejte osobní ochranné pracovní prostředky podle oddílu 8. Dbejte na platné právní předpisy o bezpečnosti a ochraně zdraví.
- 7.2. **Podmínky pro bezpečné skladování látek a směsí včetně neslučitelných látek a směsí**  
Skladujte v těsně uzavřených obalech na chladných, suchých a dobře větraných místech k tomu určených.
- 7.3. **Specifické konečné/specifická konečná použití**  
neuvedeno

ODDÍL 8: Omezování expozice/osobní ochranné prostředky

- 8.1. **Kontrolní parametry**

Česká republika

Nařízení vlády č. 330/2023 Sb.

| Název látky (složky)                | Typ  | Hodnota               |
|-------------------------------------|------|-----------------------|
| kyselina citrónová (CAS: 5949–29–1) | PELc | 4,0 mg/m <sup>3</sup> |

PNEC

| kyselina citronová monohydrát |            |
|-------------------------------|------------|
| Cesta expozice                | Hodnota    |
| Pitná voda                    | 0,44 mg/l  |
| Mořská voda                   | 0,044 mg/l |

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### kyselina citronová monohydrát

| Cesta expozice                                   | Hodnota           |
|--------------------------------------------------|-------------------|
| Sladkovodní sedimenty                            | 3,46 mg/kg sušiny |
| Mořské sedimenty                                 | 34,6 mg/kg sušiny |
| Půda (zemědělská)                                | 33,1 mg/kg sušiny |
| Mikroorganismy v systémech čištění odpadních vod | >1000 mg/l        |

#### 8.2. Omezování expozice

Při práci nejzte, nepijte a nekuřte. Po práci a před přestávkou na jídlo a oddech si důkladně omyjte ruce vodou a mýdlem.

#### Ochrana očí a obličeje



Ochranné brýle.

#### Ochrana kůže

Při znečištění pokožky ji důkladně omyjte.

#### Ochrana dýchacích cest



Není nutná. V případě nedostatečného větrání používejte vybavení pro ochranu dýchacích cest.

#### Tepelné nebezpečí

Neuvedeno.

#### Omezování expozice životního prostředí

Dbejte obvyklých opatření na ochranu životního prostředí, viz bod 6.2.

#### Další údaje

Přílohou bezpečnostního listu je scénář expozice.

### ODDÍL 9: Fyzikální a chemické vlastnosti

#### 9.1. Informace o základních fyzikálních a chemických vlastnostech

|                                                              |                                   |
|--------------------------------------------------------------|-----------------------------------|
| Skupenství                                                   | pevné                             |
| Barva                                                        | bezbarvá až bílá                  |
| Zápach                                                       | bez zápachu                       |
| Bod tání/bod tuhnutí                                         | 153 °C                            |
| Bod varu nebo počáteční bod varu a rozmezí bodu varu         | údaj není k dispozici             |
| Hořlavost                                                    | údaj není k dispozici             |
| Dolní a horní mezní hodnota výbušnosti                       | údaj není k dispozici             |
| Bod vzplanutí                                                | údaj není k dispozici             |
| Teplota samovznícení                                         | údaj není k dispozici             |
| Teplota rozkladu                                             | údaj není k dispozici             |
| pH                                                           | 1,7 (5% roztok)                   |
| Kinematická viskozita                                        | údaj není k dispozici             |
| Rozpustnost ve vodě                                          | 590 g/L                           |
| Rozdělovací koeficient n-oktanol/voda (logaritmická hodnota) | -0,2 až -1,8                      |
| Tlak páry                                                    | údaj není k dispozici             |
| Hustota a/nebo relativní hustota<br>hustota                  | 1,665 g/cm <sup>3</sup> při 20 °C |

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|                        |                                 |
|------------------------|---------------------------------|
| Relativní hustota páry | údaj není k dispozici           |
| Charakteristiky částic | údaj není k dispozici           |
| Forma                  | pevná látka, krystalický prášek |
| 9.2. Další informace   |                                 |
| neuvedeno              |                                 |

ODDÍL 10: Stálost a reaktivita

|                                          |                                                                                                                                                       |
|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10.1. Reaktivita                         | Látka je nehořlavá.                                                                                                                                   |
| 10.2. Chemická stabilita                 | Při normálních podmínkách je produkt stabilní.                                                                                                        |
| 10.3. Možnost nebezpečných reakcí        | Nejsou známy.                                                                                                                                         |
| 10.4. Podmínky, kterým je třeba zabránit | Za normálního způsobu použití je produkt stabilní, k rozkladu nedochází. Chraňte před plameny, jiskrami, přehřátím a před mrazem.                     |
| 10.5. Neslučitelné materiály             | Chraňte před silnými kyselinami, zásadami a oxidačními činidly.                                                                                       |
| 10.6. Nebezpečné produkty rozkladu       | Za normálního způsobu použití nevznikají. Při vysokých teplotách a při požáru vznikají nebezpečné produkty, jako např. oxid uhelnatý a oxid uhličitý. |

ODDÍL 11: Toxikologické informace

|                                                                                 |                                                                                                                                                                                                                                                                 |
|---------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11.1. Informace o třídách nebezpečnosti vymezených v nařízení (ES) č. 1272/2008 | Pro látku nejsou žádné toxikologické údaje k dispozici. Vdechování par rozpouštědel nad hodnoty překračující expoziční limity pro pracovní prostředí může mít za následek vznik akutní inhalační otravy, a to v závislosti na výši koncentrace a době expozice. |
|---------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Akutní toxicita

Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.

| kyselina citronová monohydrát |          |          |             |               |                            |         |
|-------------------------------|----------|----------|-------------|---------------|----------------------------|---------|
| Cesta expozice                | Parametr | Metoda   | Hodnota     | Doba expozice | Druh                       | Pohlaví |
| Orálně                        | LD50     | OECD 401 | >5400 mg/kg |               | Krysa                      |         |
| Dermálně                      | LD50     | OECD 402 | >2000 mg/kg |               | Potkan (Rattus norvegicus) |         |

Žíravost / dráždivost pro kůži

Údaje pro látku nejsou k dispozici. Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.

Vážné poškození očí / podráždění očí

Způsobuje vážné podráždění očí.

Senzibilizace dýchacích cest / senzibilizace kůže

Údaje pro látku nejsou k dispozici. Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.

Mutagenita v zárodečných buňkách

Údaje pro látku nejsou k dispozici. Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.

Karcinogenita

Údaje pro látku nejsou k dispozici. Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.

Toxicita pro reprodukci

Údaje pro látku nejsou k dispozici. Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.

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### Toxicita pro specifické cílové orgány – jednorázová expozice

Údaje pro látku nejsou k dispozici. Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.

### Toxicita pro specifické cílové orgány – opakovaná expozice

Údaje pro látku nejsou k dispozici. Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.

### Nebezpečnost při vdechnutí

Údaje pro látku nejsou k dispozici. Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.

## 11.2. Informace o další nebezpečnosti

### Vlastnosti vyvolávající narušení činnosti endokrinního systému

Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna. Neobsahuje složky, které mohou způsobit narušení činnosti endokrinního systému pro člověka.

### Další informace

neuvedeno

## ODDÍL 12: Ekologické informace

### 12.1. Toxicita

Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.

#### Akutní toxicita

| kyselina citronová monohydrát |          |            |               |                            |           |
|-------------------------------|----------|------------|---------------|----------------------------|-----------|
| Parametr                      | Metoda   | Hodnota    | Doba expozice | Druh                       | Prostředí |
| LC50                          | OECD 203 | 440 mg/l   | 48 hodin      | Ryby (Oncorhynchus mykiss) |           |
| LC50                          |          | 1,535 mg/l | 24 hodin      | Dafnie (Daphnia magna)     |           |

#### Chronická toxicita

| kyselina citronová monohydrát |          |               |                                  |           |
|-------------------------------|----------|---------------|----------------------------------|-----------|
| Parametr                      | Hodnota  | Doba expozice | Druh                             | Prostředí |
| NOEC                          | 425 mg/l | 48 hodin      | Řasy (Selenastrum capricornutum) |           |

### 12.2. Perzistence a rozložitelnost

Údaje pro látku nejsou k dispozici.

### 12.3. Bioakumulační potenciál

Údaje pro látku nejsou k dispozici.

### 12.4. Mobilita v půdě

Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna. Neobsahuje složky PMT/vPvM.

### 12.5. Výsledky posouzení PBT a vPvB

Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna. Neobsahuje složky PBT/vPvB.

### 12.6. Vlastnosti vyvolávající narušení činnosti endokrinního systému

Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna. Neobsahuje složky, které mohou způsobit narušení činnosti endokrinního systému v životním prostředí.

### 12.7. Jiné nepříznivé účinky

Neuvedeno.

## ODDÍL 13: Pokyny pro odstraňování

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### 13.1. Metody nakládání s odpady

Nebezpečí kontaminace životního prostředí, postupujte podle zákona č. 541/2020 Sb. o odpadech, v platném znění, a podle prováděcích předpisů o zneškodňování odpadů. Nepoužitý výrobek a znečištěný obal uložte do označených nádob pro sběr odpadu a předejte k odstranění oprávněné osobě k odstranění odpadu (specializované firmě), která má oprávnění k této činnosti. Nepoužitý výrobek nevylévat do kanalizace. Nesmí se odstraňovat společně s komunálními odpady. Prázdné obaly je možno energeticky využít ve spalovně odpadů nebo ukládat na skládce příslušného zařízení. Dokonale vyčištěné obaly je možné předat k recyklaci.

#### Právní předpisy o odpadech

Zákon č. 541/2020 Sb., o odpadech, v platném znění. Vyhláška č. 8/2021 Sb., o Katalogu odpadů a posuzování vlastností odpadů (Katalog odpadů). Rozhodnutí 2000/532/ES, kterým se stanoví seznam odpadů, ve znění pozdějších předpisů. Zákon č. 545/2020 Sb., kterým se mění zákon č. 477/2001 Sb., o obalech a o změně některých zákonů (zákon o obalech), ve znění pozdějších předpisů. Vyhláška č. 273/2021 Sb., o podrobnostech nakládání s odpady, v platném znění.

#### Kód druhu odpadu

16 03 05\* Organické odpady obsahující nebezpečné látky

15 02 02\* Absorpční činidla, filtrační materiály (včetně olejových filtrů jinak blíže neurčených), čisticí tkaniny a ochranné oděvy znečištěné nebezpečnými látkami

#### Kód druhu odpadu pro obal

15 01 10\* Obaly obsahující zbytky nebezpečných látek nebo obaly těmito látkami znečištěné

(\*) - nebezpečný odpad podle směrnice 2008/98/ES o nebezpečných odpadech

### ODDÍL 14: Informace pro přepravu

#### 14.1. UN číslo nebo ID číslo

nepodléhá předpisům o přepravě

#### 14.2. Oficiální (OSN) pojmenování pro přepravu

není relevantní

#### 14.3. Třída/třídy nebezpečnosti pro přepravu

není relevantní

#### 14.4. Obalová skupina

není relevantní

#### 14.5. Nebezpečnost pro životní prostředí

není relevantní

#### 14.6. Zvláštní bezpečnostní opatření pro uživatele

Odkaz v oddílech 4 až 8.

#### 14.7. Námořní hromadná přeprava podle nástrojů IMO

není relevantní

### ODDÍL 15: Informace o předpisech

#### 15.1. Předpisy týkající se bezpečnosti, zdraví a životního prostředí/specifické právní předpisy týkající se látky nebo směsi

Nařízení Evropského parlamentu a Rady (ES) č. 1907/2006 ze dne 18. prosince 2006 o registraci, hodnocení, povolování a omezování chemických látek, o zřízení Evropské agentury pro chemické látky, o změně směrnice 1999/45/ES a o zrušení nařízení Rady (EHS) č. 793/93, nařízení Komise (ES) č. 1488/94, směrnice Rady 76/769/EHS a směrnic Komise 91/155/EHS, 93/67/EHS, 93/105/ES a 2000/21/ES, v platném znění. Nařízení Evropského parlamentu a Rady (ES) č. 1272/2008, v platném znění. Zákon č. 350/2011 Sb., o chemických látkách a chemických směsích a o změně některých zákonů (chemický zákon). Zákon č. 258/2000 Sb., o ochraně veřejného zdraví, v platném znění. Nařízení vlády č. 361/2007 Sb., kterým se stanoví podmínky ochrany zdraví při práci, v platném znění. Vyhláška č. 415/2012 Sb., o přípustné úrovni znečišťování a jejím zjišťování a o provedení některých dalších ustanovení zákona o ochraně ovzduší, ve znění pozdějších předpisů. Zákon č. 541/2020 Sb., o odpadech, v platném znění. Zákon č. 201/2012 Sb., o ochraně ovzduší, v platném znění. Vyhláška č. 432/2003 Sb., kterou se stanoví podmínky pro zařazování prací do kategorií, limitní hodnoty ukazatelů biologických expozičních testů, podmínky odběru biologického materiálu pro provádění biologických expozičních testů a náležitosti hlášení prací s azbestem a biologickými činiteli, v platném znění. Nařízení Komise (EU) 2020/878 ze dne 18. června 2020, kterým se mění příloha II nařízení Evropského parlamentu a Rady (ES) č. 1907/2006 o registraci, hodnocení, povolování a omezování chemických látek (REACH).

#### 15.2. Posouzení chemické bezpečnosti

Posouzení chemické bezpečnosti nebylo provedeno (směs).

### ODDÍL 16: Další informace

# BEZPEČNOSTNÍ LIST

podle nařízení Komise (EU) 2020/878, v platném znění

## KYSELINA CITRONOVÁ (monohydrát)

Datum vytvoření 06.06.2025

Datum revize

Číslo verze

1.0

### Seznam standardních vět o nebezpečnosti použitých v bezpečnostním listu

H319 Způsobuje vážné podráždění očí.

### Seznam pokynů pro bezpečné zacházení použitých v bezpečnostním listu

P101 Je-li nutná lékařská pomoc, mějte po ruce obal nebo štítek výrobku.

P102 Uchovávejte mimo dosah dětí.

P264 Po manipulaci důkladně omyjte ruce a zasažené části těla.

P280 Používejte ochranné brýle.

P305+P351+P338 PŘI ZASAŽENÍ OČÍ: Několik minut opatrně vyplachujte vodou. Vyjměte kontaktní čočky, jsou-li nasazeny a pokud je lze vyjmout snadno. Pokračujte ve vyplachování.

P337+P313 Přetrvává-li podráždění očí: Vyhledejte lékařskou pomoc/ošetření.

P501 Odstraňte obsah/obal odevzdáním ve sběrně nebezpečných odpadů.

### Další informace důležité z hlediska bezpečnosti a ochrany zdraví člověka

Výrobek nesmí být - bez zvláštního souhlasu výrobce/dovozce - používán k jinému účelu, než je uvedeno v oddílu 1. Uživatel je odpovědný za dodržování všech souvisejících předpisů na ochranu zdraví.

### Legenda ke zkratkám a zkratkovým slovům použitým v bezpečnostním listu

ADR Dohoda o mezinárodní silniční přepravě nebezpečných věcí

BCF Biokoncentrační faktor

CAS Chemical Abstracts Service

CLP Nařízení (ES) č. 1272/2008 o klasifikaci, označování a balení látek a směsí

EINECS Evropský seznam existujících obchodovaných chemických látek

EmS Pohotovostní plán

ES Číslo ES je číselný identifikátor látek na seznamu ES

EU Evropská unie

EuPCS Evropský systém kategorizace výrobků

Eye Irrit. Dráždivost pro oči

IATA Mezinárodní asociace leteckých dopravců

IBC Mezinárodní předpis pro stavbu a vybavení lodí hromadně přepravujících nebezpečné chemikálie

ICAO Mezinárodní organizace pro civilní letectví

IMDG Mezinárodní námořní přeprava nebezpečného zboží

IMO Mezinárodní námořní organizace

INCI Mezinárodní nomenklatura kosmetických přísad

ISO Mezinárodní organizace pro normalizaci

IUPAC Mezinárodní unie pro čistou a užitou chemii

LC50 Smrtelná koncentrace látky, při které lze očekávat, že způsobí smrt 50% populace

LD50 Smrtelná dávka látky, při které lze očekávat, že způsobí smrt 50% populace

log Kow Oktanol-voda rozdělovací koeficient

NOEC Koncentrace bez pozorovaných účinků

NPK Nejvyšší přípustná koncentrace

OEL Expoziční limity na pracovišti

PBT Perzistentní, bioakumulativní a toxická

PEL Přípustný expoziční limit

PMT Perzistentní, mobilní a toxická

ppm Počet částic na milion (miliontina)

REACH Registrace, hodnocení, povolování a omezování chemických látek

RID Dohoda o přepravě nebezpečných věcí po železnici

UN číslo Čtyřmístné identifikační číslo látky nebo předmětu převzaté ze Vzorových předpisů OSN

UVCB Látka s neznámým nebo proměnlivým složením, komplexní reakční produkt nebo biologický materiál

VOC Těkavé organické sloučeniny

vPvB Vysoce perzistentní a vysoce bioakumulativní

vPvM Vysoce perzistentní a vysoce mobilní

### Pokyny pro školení

Seznámit pracovníky s doporučeným způsobem použití, povinnými ochrannými prostředky, první pomocí a zakázanými manipulacemi s produktem.



# BEZPEČNOSTNÍ LIST

podle nařízení Komise (EU) 2020/878, v platném znění

## KYSELINA CITRONOVÁ (monohydrát)

Datum vytvoření 06.06.2025

Datum revize Číslo verze 1.0

### Doporučená omezení použití

neuvedeno

### Informace o zdrojích údajů použitých při sestavování bezpečnostního listu

Nařízení Evropského parlamentu a Rady (ES) č. 1907/2006 (REACH), v platném znění. Nařízení Evropského parlamentu a Rady (ES) č. 1272/2008, v platném znění. Zákon č. 350/2011 Sb., o chemických látkách a chemických směsích, v platném znění. Údaje od výrobce látky/směsi, pokud jsou k dispozici - údaje z registrační dokumentace.

### Další údaje

Postup klasifikace - převzata v rámci dodavatelského řetězce, ověřena metodou výpočtu.

### Prohlášení

Bezpečnostní list obsahuje údaje pro zajištění bezpečnosti a ochrany zdraví při práci a ochrany životního prostředí. Uvedené údaje odpovídají současnému stavu vědomostí a zkušeností a jsou v souladu s platnými právními předpisy. Nemohou být považovány za záruku vhodnosti a použitelnosti výrobku pro konkrétní aplikaci.

## Annexes

### Exposure scenarios and Use Descriptors

#### Index

1. Intermediate
2. Formulation
3. Personal care products
4. Detergent and cleaning products
5. Paper industry
6. Construction products
7. Polymers and plastics
8. Oil industry
9. Paints and coatings
10. Photography products
11. Textile industry
12. Laboratory reagents
13. Water treatment
14. Treatment of metal surfaces
15. Agricultural applications
16. Medical devices

|                                                                     |                                                                                                                                                                                                                             |
|---------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1. Exposure Scenario</b>                                         |                                                                                                                                                                                                                             |
| Use of citric acid as an intermediate. Industrial                   |                                                                                                                                                                                                                             |
| <b>2. Processes and activities covered by the exposure scenario</b> |                                                                                                                                                                                                                             |
| <b>Sector of end use (SU):</b>                                      | 03. Industrial uses: Uses of substances as such or in preparations/mixtures industrial sites                                                                                                                                |
|                                                                     | 09. Manufacture of fine chemicals                                                                                                                                                                                           |
| <b>Chemical product category (PC):</b>                              | 19. Intermediate                                                                                                                                                                                                            |
| <b>Process category (PROC):</b>                                     | 01. Use in closed process, no likelihood of exposure                                                                                                                                                                        |
|                                                                     | 02. Use in closed, continuous process with occasional controlled exposure                                                                                                                                                   |
|                                                                     | 04. Use in batch and other process (synthesis) where opportunity for exposure arises                                                                                                                                        |
|                                                                     | 08b. Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities                                                                                                   |
| <b>Article Categories [AC]:</b>                                     | Not applicable                                                                                                                                                                                                              |
| <b>Environmental release category (ERC):</b>                        | 06a. Industrial use resulting in manufacture of another substance (use of intermediates)                                                                                                                                    |
| <b>3. Operational conditions of use</b>                             |                                                                                                                                                                                                                             |
| <b>Control parameters:</b>                                          | Precautionary measures against electrostatic discharge to be taken. LEV and respiratory protection to be taken in areas where workers may come into contact with dust.<br>Implement basic standards of occupational hygiene |
| <b>Duration and frequency of use:</b>                               | Users to specify                                                                                                                                                                                                            |
| <b>Maximum amount per time or activity:</b>                         | Users to specify                                                                                                                                                                                                            |
| <b>Other operational conditions of use:</b>                         | Avoid splashes and spills. Minimise manual handling.                                                                                                                                                                        |
| <b>Engineering control measures:</b>                                | Local exhaust ventilation. Exposure limit values: Not known                                                                                                                                                                 |
| <b>Other protective equipment:</b>                                  | Good hygiene and housekeeping                                                                                                                                                                                               |
| <b>Respiratory protection:</b>                                      | Required where ventilation is insufficient or exposure is prolonged                                                                                                                                                         |
| <b>Hand protection:</b>                                             | Rubber or PVC gloves                                                                                                                                                                                                        |
| <b>Eye protection:</b>                                              | Wear safety goggles or face shield. Ensure eyewash and showers are in the proximity to                                                                                                                                      |

|                                                                          |                                                                                                                                                                                                        |
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|                                                                          | workstation location.                                                                                                                                                                                  |
| <b>Other information:</b>                                                | Avoid contact with the substance or contaminated objects, Ensure regular cleaning of equipment and work area, good personal hygiene, staff training and management/supervision are in place.           |
| <b>4. Physical form of substance / preparation / mixture or article</b>  |                                                                                                                                                                                                        |
| <b>Information on basic physical and chemical properties:</b>            | Solid, crystalline, acidic as a liquid                                                                                                                                                                 |
| <b>5. Product specification</b>                                          |                                                                                                                                                                                                        |
| <b>Physical form of the product:</b>                                     | Not applicable                                                                                                                                                                                         |
| <b>Concentration of substance in preparation / mixture or article:</b>   | Users to specify                                                                                                                                                                                       |
| <b>Service life of substances in articles:</b>                           | Users to specify                                                                                                                                                                                       |
| <b>6. Risk Management Measures</b>                                       |                                                                                                                                                                                                        |
| <b>Occupational exposure controls:</b>                                   | Keep area well ventilated. Precautions against dust explosion and irritation caused by dust inhalation.                                                                                                |
| <b>Environmental Exposure Controls:</b>                                  | Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. The substance is biodegradable, has a low Kow and is not expected to bioaccumulate.                |
| <b>7. Consumer use:</b>                                                  | Not applicable                                                                                                                                                                                         |
| <b>8. Waste management measures</b>                                      |                                                                                                                                                                                                        |
| <b>Description and information on safe handling of surplus or waste:</b> | Neutralise before treatment in a sewage treatment plant. Disposal untreated waste should be in accordance with local, state or national legislation.                                                   |
| <b>9. Exposure assessment</b>                                            |                                                                                                                                                                                                        |
| <b>Human exposure prediction:</b>                                        |                                                                                                                                                                                                        |
| <b>Workers:</b>                                                          | Use of PPE will to minimise handling and contact.                                                                                                                                                      |
| <b>Consumers:</b>                                                        | Not applicable                                                                                                                                                                                         |
| <b>Method:</b>                                                           | Not known                                                                                                                                                                                              |
| <b>Exposure estimation:</b>                                              | Not known                                                                                                                                                                                              |
| <b>Secondary Poisoning:</b>                                              | Not expected                                                                                                                                                                                           |
| <b>Indirect exposure to humans via the environment:</b>                  | Not expected                                                                                                                                                                                           |
| <b>10. Other information</b>                                             |                                                                                                                                                                                                        |
| <b>Control parameters:</b>                                               | Refer to the eSDS                                                                                                                                                                                      |
| <b>Method to check compliance:</b>                                       | Management/supervision to check that the RMMs in place are being used correctly and OCS followed. Ensure staff and workers receive adequate training with regular updates in the handling of chemicals |

|                                                                              |                                                                                                 |
|------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| <b>2. Exposure Scenario</b>                                                  |                                                                                                 |
| <b>Use of citric acid formulation into preparations/mixtures –industrial</b> |                                                                                                 |
| <b>2. Processes and activities covered by the exposure scenario</b>          |                                                                                                 |
| <b>Sector of end use (SU):</b>                                               | 03. Industrial uses: Uses of substances as such or in preparations/mixtures at industrial sites |
|                                                                              | 10. Formulation [mixing] of preparations and/or re-packaging (excluding alloys)                 |
|                                                                              | 05. Manufacture of textiles, leather, fur                                                       |
|                                                                              | 13. Manufacture of other non-metallic mineral products, e.g. plasters, cement                   |
|                                                                              | 20. Health services                                                                             |
| <b>Chemical product category (PC):</b>                                       | 0. Other                                                                                        |
|                                                                              | 01 Adhesives, sealants                                                                          |
|                                                                              | 03. Air care products                                                                           |
|                                                                              | 09a. Coatings and paints, thinners, paint removers                                              |
|                                                                              | 09b. Fillers, putties, plasters, modelling clay                                                 |
|                                                                              | 12. Fertilizers                                                                                 |
|                                                                              | 18. Ink and toners                                                                              |
|                                                                              | 30. Photo-chemicals.                                                                            |
|                                                                              | 31. Polishes and wax blends                                                                     |
|                                                                              | 35. Washing and cleaning products (including solvent based products)                            |
|                                                                              | 39. Cosmetics, personal care products                                                           |

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|                                                                         |                                                                                                                                                                                                                          |
| <b>Process category (PROC):</b>                                         | 01. Use in closed process, no likelihood of exposure                                                                                                                                                                     |
|                                                                         | 02. Use in closed, continuous process with occasional controlled exposure                                                                                                                                                |
|                                                                         | 03. Use in closed batch process (synthesis or formulation)                                                                                                                                                               |
|                                                                         | 04. Use in batch and other process (synthesis) where opportunity for exposure arises                                                                                                                                     |
|                                                                         | 05. Mixing or blending in batch processes for formulation of preparations/mixtures and articles (multistage and/or significant contact)                                                                                  |
|                                                                         | 07. Industrial spraying                                                                                                                                                                                                  |
|                                                                         | 08a. Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities                                                                                            |
|                                                                         | 08b. Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities                                                                                                |
|                                                                         | 09. Transfer of substance or preparation into small containers (dedicated filling line, including weighing)                                                                                                              |
|                                                                         | 13. Treatment of articles by dipping and pouring                                                                                                                                                                         |
|                                                                         | 14. Production of preparations/mixtures or articles by tableting, compression, extrusion, pelletisation                                                                                                                  |
|                                                                         | 15. Use as laboratory reagent                                                                                                                                                                                            |
|                                                                         | 19. Hand-mixing with intimate contact and only PPE available                                                                                                                                                             |
| <b>Article Categories [AC]:</b>                                         | Not applicable                                                                                                                                                                                                           |
| <b>Environmental release category (ERC):</b>                            | 01. Manufacture of substances                                                                                                                                                                                            |
|                                                                         | 02. Formulation of preparations/mixtures                                                                                                                                                                                 |
|                                                                         | 03. Formulation in materials                                                                                                                                                                                             |
|                                                                         | 04. Industrial use of processing aids in processes and products, not becoming part of articles                                                                                                                           |
| <b>3. Operational conditions of use</b>                                 |                                                                                                                                                                                                                          |
| <b>Control parameters:</b>                                              | Precautionary measures against electrostatic discharge to be taken. LEV and respiratory protection to be taken in areas where workers may come into contact with dust. Implement basic standards of occupational hygiene |
| <b>Duration and frequency of use:</b>                                   | Users to specify                                                                                                                                                                                                         |
| <b>Maximum amount per time or activity:</b>                             | Users to specify                                                                                                                                                                                                         |
| <b>Other operational conditions of use:</b>                             | Avoid splashes and spills. Minimise manual handling.                                                                                                                                                                     |
| <b>Engineering control measures:</b>                                    | Local exhaust ventilation. Exposure limit values: Not known                                                                                                                                                              |
| <b>Other protective equipment:</b>                                      | Good hygiene and housekeeping                                                                                                                                                                                            |
| <b>Respiratory protection:</b>                                          | Required where ventilation is insufficient or exposure is prolonged                                                                                                                                                      |
| <b>Hand protection:</b>                                                 | Rubber or PVC gloves                                                                                                                                                                                                     |
| <b>Eye protection:</b>                                                  | Wear safety goggles or face shield. Industrial professional - ensure eyewash and showers are in the proximity to workstation location.                                                                                   |
| <b>Other information:</b>                                               | Avoid contact with the substance or contaminated objects, Ensure regular cleaning of equipment and work area, good personal hygiene, staff training and management/supervision are in place.                             |
| <b>4. Physical form of substance / preparation / mixture or article</b> |                                                                                                                                                                                                                          |
| <b>Information on basic physical and chemical properties:</b>           | Solid, crystalline, acidic as a liquid                                                                                                                                                                                   |
| <b>5. Product specification</b>                                         |                                                                                                                                                                                                                          |
| <b>Physical form of the product:</b>                                    | Part of a preparation can be a liquid or solid.                                                                                                                                                                          |
| <b>Concentration of substance in preparation / mixture or article:</b>  | Users to specify                                                                                                                                                                                                         |
| <b>Service life of substances in articles:</b>                          | Users to specify                                                                                                                                                                                                         |
| <b>6. Risk Management Measures</b>                                      |                                                                                                                                                                                                                          |
| <b>Occupational exposure controls:</b>                                  | Keep area well ventilated. Precautions against dust explosion and irritation caused by dust inhalation.                                                                                                                  |
| <b>Environmental Exposure Controls:</b>                                 | Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. The substance is biodegradable, has a low Kow and is not expected to bioaccumulate.                                  |

|                                                                          |                                                                                                                                                                                                        |
|--------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>7. Consumer use:</b>                                                  | Not applicable                                                                                                                                                                                         |
| <b>8. Waste management measures</b>                                      |                                                                                                                                                                                                        |
| <b>Description and information on safe handling of surplus or waste:</b> | Neutralise before treatment in a sewage treatment plant. Disposal untreated waste should be in accordance with local, state or national legislation.                                                   |
| <b>9. Exposure assessment</b>                                            |                                                                                                                                                                                                        |
| <b>Human exposure prediction:</b>                                        |                                                                                                                                                                                                        |
| <b>Workers:</b>                                                          | Use of PPE will to minimise handling and contact.                                                                                                                                                      |
| <b>Consumers:</b>                                                        | Not applicable                                                                                                                                                                                         |
| <b>Method:</b>                                                           | Not applicable                                                                                                                                                                                         |
| <b>Exposure estimation:</b>                                              | Not known                                                                                                                                                                                              |
| <b>Secondary Poisoning:</b>                                              | Not expected                                                                                                                                                                                           |
| <b>Indirect exposure to humans via the environment:</b>                  | Not expected                                                                                                                                                                                           |
| <b>10. Other information</b>                                             |                                                                                                                                                                                                        |
| <b>Control parameters:</b>                                               | Refer to the eSDS                                                                                                                                                                                      |
| <b>Method to check compliance:</b>                                       | Management/supervision to check that the RMMs in place are being used correctly and OCs followed. Ensure staff and workers receive adequate training with regular updates in the handling of chemicals |

|                                                                                                                            |                                                                                                                                                                                                                          |
|----------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>3. Exposure Scenario</b>                                                                                                |                                                                                                                                                                                                                          |
| Use of citric acid in personal care products. Industrial, professional and consumer users.                                 |                                                                                                                                                                                                                          |
| Use is treated as exempt from REACH in respect of human health, formulation is also covered under Citric acid -formulation |                                                                                                                                                                                                                          |
| <b>2. Processes and activities covered by the exposure scenario</b>                                                        |                                                                                                                                                                                                                          |
| <b>Sector of end use (SU):</b>                                                                                             | 20. Health services                                                                                                                                                                                                      |
|                                                                                                                            | 21. Consumer uses: Private households (= general public = consumers)                                                                                                                                                     |
|                                                                                                                            | 22. Professional uses: Public domain (administration, education, entertainment, services, craftsmen)                                                                                                                     |
| <b>Chemical product category (PC):</b>                                                                                     | 02. Adsorbents                                                                                                                                                                                                           |
|                                                                                                                            | 03. Air care products                                                                                                                                                                                                    |
| <b>Process category (PROC):</b>                                                                                            | 10. Roller application or brushing                                                                                                                                                                                       |
|                                                                                                                            | 11. Non industrial spraying                                                                                                                                                                                              |
|                                                                                                                            | 19. Hand-mixing with intimate contact and only PPE available                                                                                                                                                             |
| <b>Article Categories [AC]:</b>                                                                                            | 08. Paper articles                                                                                                                                                                                                       |
| <b>Environmental release category (ERC):</b>                                                                               | 08a. Wide dispersive indoor use of processing aids in open systems                                                                                                                                                       |
|                                                                                                                            | 11a. Wide dispersive indoor use of long-life articles and materials with low release                                                                                                                                     |
| <b>3. Operational conditions of use</b>                                                                                    |                                                                                                                                                                                                                          |
| <b>Control parameters:</b>                                                                                                 | Precautionary measures against electrostatic discharge to be taken. LEV and respiratory protection to be taken in areas where workers may come into contact with dust. Implement basic standards of occupational hygiene |
| <b>Duration and frequency of use:</b>                                                                                      | Users to specify                                                                                                                                                                                                         |
| <b>Maximum amount per time or activity:</b>                                                                                | Users to specify                                                                                                                                                                                                         |
| <b>Other operational conditions of use:</b>                                                                                | Avoid splashes and spills.                                                                                                                                                                                               |
| <b>Engineering control measures:</b>                                                                                       | Keep area well ventilated. Exposure limit values: Not known                                                                                                                                                              |
| <b>Other protective equipment:</b>                                                                                         | Good hygiene and housekeeping                                                                                                                                                                                            |
| <b>Respiratory protection:</b>                                                                                             | Required where ventilation is insufficient or exposure is prolonged                                                                                                                                                      |
| <b>Hand protection:</b>                                                                                                    | Rubber or PVC gloves                                                                                                                                                                                                     |
| <b>Eye protection:</b>                                                                                                     | Wear safety goggles or face shield. Industrial & professional - ensure eyewash and showers are in the proximity to workstation location.                                                                                 |
| <b>Other information:</b>                                                                                                  | Avoid contact with the substance or contaminated objects, Ensure regular cleaning of equipment and work area, good personal hygiene, staff training and management/supervision are in place.                             |
| <b>4. Physical form of substance / preparation / mixture or article</b>                                                    |                                                                                                                                                                                                                          |
| <b>Information on basic physical and chemical properties:</b>                                                              | Solid, crystalline, acidic as a liquid                                                                                                                                                                                   |

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| <b>5. Product specification</b>                                          |                                                                                                                                                                                                        |
| <b>Physical form of the product:</b>                                     | Part of a preparation can be a liquid or solid.                                                                                                                                                        |
| <b>Concentration of substance in preparation / mixture or article:</b>   | Users to specify                                                                                                                                                                                       |
| <b>Service life of substances in articles:</b>                           | Users to specify                                                                                                                                                                                       |
| <b>6. Risk Management Measures</b>                                       |                                                                                                                                                                                                        |
| <b>Occupational exposure controls:</b>                                   | Keep area well ventilated                                                                                                                                                                              |
| <b>Environmental Exposure Controls:</b>                                  | Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. The substance is biodegradable, has a low Kow and is not expected to bioaccumulate.                |
| <b>7. Consumer use:</b>                                                  | Good hygiene and housekeeping                                                                                                                                                                          |
| <b>8. Waste management measures</b>                                      |                                                                                                                                                                                                        |
| <b>Description and information on safe handling of surplus or waste:</b> | Neutralise before treatment in a sewage treatment plant. Disposal untreated waste should be in accordance with local, state or national legislation.                                                   |
| <b>9. Exposure assessment</b>                                            |                                                                                                                                                                                                        |
| <b>Human exposure prediction:</b>                                        |                                                                                                                                                                                                        |
| <b>Workers:</b>                                                          | Long term exposure during application. Use of PPE will to minimise handling and contact.                                                                                                               |
| <b>Consumers:</b>                                                        | Long term exposure to low concentrations during application/use.                                                                                                                                       |
| <b>Method:</b>                                                           | Not applicable                                                                                                                                                                                         |
| <b>Exposure estimation:</b>                                              | Not known                                                                                                                                                                                              |
| <b>Secondary Poisoning:</b>                                              | Not expected                                                                                                                                                                                           |
| <b>Indirect exposure to humans via the environment:</b>                  | Not expected                                                                                                                                                                                           |
| <b>10. Other information</b>                                             |                                                                                                                                                                                                        |
| <b>Control parameters:</b>                                               | Refer to the eSDS                                                                                                                                                                                      |
| <b>Method to check compliance:</b>                                       | Management/supervision to check that the RMMs in place are being used correctly and OCs followed. Ensure staff and workers receive adequate training with regular updates in the handling of chemicals |

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| <b>4. Exposure Scenario</b>                                                                                |                                                                                                                                                  |
| <b>Use of citric acid in detergents and cleaning products. Industrial, professional and consumer users</b> |                                                                                                                                                  |
| <b>2. Processes and activities covered by the exposure scenario</b>                                        |                                                                                                                                                  |
| <b>Sector of end use (SU):</b>                                                                             | 03. Industrial uses: Uses of substances as such or in preparations/mixtures at industrial sites                                                  |
|                                                                                                            | 21 Consumer uses: Private households (= general public = consumers)                                                                              |
|                                                                                                            | 22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)                                              |
| <b>Chemical product category (PC):</b>                                                                     | 03. Air care products                                                                                                                            |
|                                                                                                            | 28. Perfumes, fragrances                                                                                                                         |
|                                                                                                            | 31. Polishes and wax blends                                                                                                                      |
|                                                                                                            | 35. Washing and cleaning products (including solvent based products)                                                                             |
|                                                                                                            | 36. Water softeners                                                                                                                              |
|                                                                                                            | 37. Water treatment chemicals                                                                                                                    |
| <b>Process category (PROC):</b>                                                                            | 01. Use in closed process, no likelihood of exposure                                                                                             |
|                                                                                                            | 02. Use in closed, continuous process with occasional controlled exposure                                                                        |
|                                                                                                            | 04 Use in batch and other process (synthesis) where opportunity for exposure arises                                                              |
|                                                                                                            | 05. Mixing or blending in batch processes for formulation of preparations/mixtures/mixtures and articles (multistage and/or significant contact) |
|                                                                                                            | 07. Industrial spraying                                                                                                                          |
|                                                                                                            | 08a. Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities                    |
|                                                                                                            | 08b. Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities                        |
|                                                                                                            | 09. Transfer of substance or preparation into small containers (dedicated filling line, including weighing)                                      |

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|                                                                          | 10. Roller application or brushing                                                                                                                                                                                       |
|                                                                          | 11. Non industrial spraying                                                                                                                                                                                              |
|                                                                          | 13. Treatment of articles by dipping and pouring                                                                                                                                                                         |
|                                                                          | 19. Hand-mixing with intimate contact and only PPE available                                                                                                                                                             |
| <b>Article Categories [AC]:</b>                                          | 08. Paper articles                                                                                                                                                                                                       |
| <b>Environmental release category (ERC):</b>                             | 02. Formulation of preparations/mixtures                                                                                                                                                                                 |
|                                                                          | 04. Industrial use of processing aids in processes and products, not becoming part of articles                                                                                                                           |
|                                                                          | 08a. Wide dispersive indoor use of processing aids in open systems                                                                                                                                                       |
|                                                                          | 8d. Wide dispersive outdoor use of processing aids in open systems                                                                                                                                                       |
|                                                                          | 09a. Wide dispersive indoor use of substances in closed systems                                                                                                                                                          |
|                                                                          | 09b. Wide dispersive outdoor use of substances in closed systems                                                                                                                                                         |
| <b>3. Operational conditions of use</b>                                  |                                                                                                                                                                                                                          |
| <b>Control parameters:</b>                                               | Precautionary measures against electrostatic discharge to be taken. LEV and respiratory protection to be taken in areas where workers may come into contact with dust. Implement basic standards of occupational hygiene |
| <b>Duration and frequency of use:</b>                                    | Users to specify                                                                                                                                                                                                         |
| <b>Maximum amount per time or activity:</b>                              | Users to specify                                                                                                                                                                                                         |
| <b>Other operational conditions of use:</b>                              | Avoid splashes and spills.                                                                                                                                                                                               |
| <b>Engineering control measures:</b>                                     | Keep area well ventilated. Exposure limit values: Not known                                                                                                                                                              |
| <b>Other protective equipment:</b>                                       | Good hygiene and housekeeping                                                                                                                                                                                            |
| <b>Respiratory protection:</b>                                           | Required where ventilation is insufficient or exposure is prolonged                                                                                                                                                      |
| <b>Hand protection:</b>                                                  | Rubber or PVC gloves                                                                                                                                                                                                     |
| <b>Eye protection:</b>                                                   | Wear safety goggles or face shield. Industrial professional - ensure eyewash and showers are in the proximity to workstation location.                                                                                   |
| <b>Other information:</b>                                                | Avoid contact with the substance or contaminated objects, Ensure regular cleaning of equipment and work area, good personal hygiene, staff training and management/supervision are in place.                             |
| <b>4. Physical form of substance / preparation / mixture or article</b>  |                                                                                                                                                                                                                          |
| <b>Information on basic physical and chemical properties:</b>            | Solid, crystalline, acidic as a liquid                                                                                                                                                                                   |
| <b>5. Product specification</b>                                          |                                                                                                                                                                                                                          |
| <b>Physical form of the product:</b>                                     | Part of a preparation can be a liquid or solid.                                                                                                                                                                          |
| <b>Concentration of substance in preparation / mixture or article:</b>   | Formulators information                                                                                                                                                                                                  |
| <b>Service life of substances in articles:</b>                           | In use 2 to 12 months                                                                                                                                                                                                    |
| <b>6. Risk Management Measures</b>                                       |                                                                                                                                                                                                                          |
| <b>Occupational exposure controls:</b>                                   | Keep area well ventilated                                                                                                                                                                                                |
| <b>Environmental Exposure Controls:</b>                                  | Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. The substance is biodegradable, has a low Kow and is not expected to bioaccumulate.                                  |
| <b>7. Consumer use:</b>                                                  | Good hygiene and housekeeping                                                                                                                                                                                            |
| <b>8. Waste management measures</b>                                      |                                                                                                                                                                                                                          |
| <b>Description and information on safe handling of surplus or waste:</b> | Neutralise before treatment in a sewage treatment plant. Disposal untreated waste should be in accordance with local, state or national legislation.                                                                     |
| <b>9. Exposure assessment</b>                                            |                                                                                                                                                                                                                          |
| <b>Human exposure prediction:</b>                                        |                                                                                                                                                                                                                          |
| <b>Workers:</b>                                                          | Short term during formulation. Long term exposure during application. Use of PPE will to minimise handling and contact.                                                                                                  |
| <b>Consumers:</b>                                                        | Long term exposure to low concentrations during application/use                                                                                                                                                          |
| <b>Method:</b>                                                           | Not applicable                                                                                                                                                                                                           |
| <b>Exposure estimation:</b>                                              | Not known                                                                                                                                                                                                                |
| <b>Secondary Poisoning:</b>                                              | Not expected                                                                                                                                                                                                             |
| <b>Indirect exposure to humans via the environment:</b>                  | Not expected                                                                                                                                                                                                             |
| <b>10. Other information</b>                                             |                                                                                                                                                                                                                          |
| <b>Control parameters:</b>                                               | Refer to the eSDS                                                                                                                                                                                                        |

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| <b>Method to check compliance:</b> | Management/supervision to check that the RMMs in place are being used correctly and OCs followed. Ensure staff and workers receive adequate training with regular updates in the handling of chemicals |
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| <b>5. Exposure Scenario</b>                                              |                                                                                                                                                                                                                          |
| <b>Use of citric acid in paper industry. Industrial</b>                  |                                                                                                                                                                                                                          |
| <b>2. Processes and activities covered by the exposure scenario</b>      |                                                                                                                                                                                                                          |
| <b>Sector of end use (SU):</b>                                           | 03. Industrial uses: Uses of substances as such or in preparations/mixtures industrial sites                                                                                                                             |
|                                                                          | 06a. Manufacture of pulp, paper and paper products                                                                                                                                                                       |
| <b>Chemical product category (PC):</b>                                   | 26. Paper and board dye, finishing and impregnation products: including bleaches and other processing aids                                                                                                               |
| <b>Process category (PROC):</b>                                          | 05. Mixing or blending in batch processes for formulation of preparations/mixtures/mixtures and articles (multistage and/or significant contact)                                                                         |
|                                                                          | 8a. Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities.                                                                                            |
| <b>Article Categories [AC]:</b>                                          | Not applicable                                                                                                                                                                                                           |
| <b>Environmental release category (ERC):</b>                             | 04. Industrial use of processing aids in processes and products, not becoming part of articles                                                                                                                           |
| <b>3. Operational conditions of use</b>                                  |                                                                                                                                                                                                                          |
| <b>Control parameters:</b>                                               | Precautionary measures against electrostatic discharge to be taken. LEV and respiratory protection to be taken in areas where workers may come into contact with dust. Implement basic standards of occupational hygiene |
| <b>Duration and frequency of use:</b>                                    | Users to specify                                                                                                                                                                                                         |
| <b>Maximum amount per time or activity:</b>                              | Users to specify                                                                                                                                                                                                         |
| <b>Other operational conditions of use:</b>                              | Avoid splashes and spills.                                                                                                                                                                                               |
| <b>Engineering control measures:</b>                                     | Keep area well ventilated. Exposure limit values: Not known                                                                                                                                                              |
| <b>Other protective equipment:</b>                                       | Good hygiene and housekeeping                                                                                                                                                                                            |
| <b>Respiratory protection:</b>                                           | Required where ventilation is insufficient or exposure is prolonged                                                                                                                                                      |
| <b>Hand protection:</b>                                                  | Rubber or PVC gloves                                                                                                                                                                                                     |
| <b>Eye protection:</b>                                                   | Wear safety goggles or face shield. Ensure eyewash and showers are in the proximity to workstation location.                                                                                                             |
| <b>Other information:</b>                                                | Avoid contact with the substance or contaminated objects, Ensure regular cleaning of equipment and work area, good personal hygiene, staff training and management/supervision are in place.                             |
| <b>4. Physical form of substance / preparation / mixture or article</b>  |                                                                                                                                                                                                                          |
| <b>Information on basic physical and chemical properties:</b>            | Solid, crystalline, acidic as a liquid                                                                                                                                                                                   |
| <b>5. Product specification</b>                                          |                                                                                                                                                                                                                          |
| <b>Physical form of the product:</b>                                     | Part of a preparation can be a liquid or solid.                                                                                                                                                                          |
| <b>Concentration of substance in preparation / mixture or article:</b>   | Users to specify                                                                                                                                                                                                         |
| <b>Service life of substances in articles:</b>                           | Users to specify                                                                                                                                                                                                         |
| <b>6. Risk Management Measures</b>                                       |                                                                                                                                                                                                                          |
| <b>Occupational exposure controls:</b>                                   | Keep area well ventilated.                                                                                                                                                                                               |
| <b>Environmental Exposure Controls:</b>                                  | Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. The substance is biodegradable, has a low Kow and is not expected to bioaccumulate.                                  |
| <b>7. Consumer use:</b>                                                  | Not applicable                                                                                                                                                                                                           |
| <b>8. Waste management measures</b>                                      |                                                                                                                                                                                                                          |
| <b>Description and information on safe handling of surplus or waste:</b> | Neutralise before treatment in a sewage treatment plant. Disposal untreated waste should be in accordance with local, state or national legislation.                                                                     |
| <b>9. Exposure assessment</b>                                            |                                                                                                                                                                                                                          |
| <b>Human exposure prediction:</b>                                        |                                                                                                                                                                                                                          |
| <b>Workers:</b>                                                          | Long term exposure during application. Use of PPE will to minimise handling and contact.                                                                                                                                 |
| <b>Consumers:</b>                                                        | Not applicable                                                                                                                                                                                                           |
| <b>Method:</b>                                                           | Not applicable                                                                                                                                                                                                           |
| <b>Exposure estimation:</b>                                              | Not known                                                                                                                                                                                                                |
| <b>Secondary Poisoning:</b>                                              | Not expected                                                                                                                                                                                                             |



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| <b>Indirect exposure to humans via the environment:</b> | Not expected                                                                                                                                                                                           |
| <b>10. Other information</b>                            |                                                                                                                                                                                                        |
| <b>Control parameters:</b>                              | Refer to the eSDS                                                                                                                                                                                      |
| <b>Method to check compliance:</b>                      | Management/supervision to check that the RMMs in place are being used correctly and OCs followed. Ensure staff and workers receive adequate training with regular updates in the handling of chemicals |

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| <b>6. Exposure Scenario</b>                                                               |                                                                                                                                                                                                                          |
| <b>Use of citric acid in construction products. Industrial, professional and consumer</b> |                                                                                                                                                                                                                          |
| <b>2. Processes and activities covered by the exposure scenario</b>                       |                                                                                                                                                                                                                          |
| <b>Sector of end use (SU):</b>                                                            | 02. Mining, (without offshore industries)                                                                                                                                                                                |
|                                                                                           | 03. Industrial uses: Uses of substances as such or in preparations/mixtures industrial sites                                                                                                                             |
|                                                                                           | 10. Formulation [mixing] of preparations and/or re-packaging (excluding alloys)                                                                                                                                          |
|                                                                                           | 19. Building and construction work                                                                                                                                                                                       |
|                                                                                           | 21. Consumer uses: Private households (= general public = consumers)                                                                                                                                                     |
|                                                                                           | 22 .Professional uses: Public domain (administration, education, entertainment, services, craftsmen)                                                                                                                     |
| <b>Chemical product category (PC):</b>                                                    | 0. Other                                                                                                                                                                                                                 |
| <b>Process category (PROC):</b>                                                           | 02. Use in closed, continuous process with occasional controlled exposure                                                                                                                                                |
|                                                                                           | 04. Use in batch and other process (synthesis) where opportunity for exposure arises                                                                                                                                     |
|                                                                                           | 05. Mixing or blending in batch processes for formulation of preparations/mixtures and articles (multistage and/or significant contact)                                                                                  |
|                                                                                           | 07. Industrial spraying                                                                                                                                                                                                  |
|                                                                                           | 08a. Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities                                                                                            |
|                                                                                           | 08b. Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities                                                                                                |
|                                                                                           | 10. Roller application or brushing                                                                                                                                                                                       |
|                                                                                           | 11. Non industrial spraying                                                                                                                                                                                              |
|                                                                                           | 13. Treatment of articles by dipping and pouring                                                                                                                                                                         |
|                                                                                           | 14. Production of preparations/mixtures or articles by tableting, compression, extrusion, pelletisation                                                                                                                  |
|                                                                                           | 19. Hand-mixing with intimate contact and only PPE available                                                                                                                                                             |
|                                                                                           | 21. Low energy manipulation of substances bound in materials and/or articles                                                                                                                                             |
|                                                                                           | 24. High (mechanical) energy work-up of substances bound in materials and/or articles                                                                                                                                    |
| <b>Article Categories [AC]:</b>                                                           | 04. Stone, plaster, cement, glass and ceramic articles                                                                                                                                                                   |
| <b>Environmental release category (ERC):</b>                                              | 05. Industrial use resulting in inclusion into or onto a matrix                                                                                                                                                          |
|                                                                                           | 08c. Wide dispersive indoor use resulting in inclusion into or onto a matrix                                                                                                                                             |
|                                                                                           | 08f. Wide dispersive outdoor use resulting in inclusion into or onto a matrix                                                                                                                                            |
|                                                                                           | 10a. Wide dispersive outdoor use of long-life articles and materials with low release                                                                                                                                    |
|                                                                                           | 10b. Wide dispersive outdoor use of long-life articles and materials with high or in-tended release (including abrasive processing)                                                                                      |
|                                                                                           | 11a. Wide dispersive indoor use of long-life articles and materials with low release                                                                                                                                     |
|                                                                                           | 11b. Wide dispersive indoor use of long-life articles and materials with high or intended release (including abrasive processing)                                                                                        |
|                                                                                           | 12a. Industrial processing of articles with abrasive techniques (low release)                                                                                                                                            |
| <b>3. Operational conditions of use</b>                                                   |                                                                                                                                                                                                                          |
| <b>Control parameters:</b>                                                                | Precautionary measures against electrostatic discharge to be taken. LEV and respiratory protection to be taken in areas where workers may come into contact with dust. Implement basic standards of occupational hygiene |
| <b>Duration and frequency of use:</b>                                                     | Users to specify                                                                                                                                                                                                         |
| <b>Maximum amount per time or activity:</b>                                               | Users to specify                                                                                                                                                                                                         |

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| <b>Other operational conditions of use:</b>                              | Avoid splashes and spills.                                                                                                                                                                             |
| <b>Engineering control measures:</b>                                     | Keep area well ventilated. Exposure limit values: Not known                                                                                                                                            |
| <b>Other protective equipment:</b>                                       | Good hygiene and housekeeping                                                                                                                                                                          |
| <b>Respiratory protection:</b>                                           | Required where ventilation is insufficient or exposure is prolonged                                                                                                                                    |
| <b>Hand protection:</b>                                                  | Rubber or PVC gloves                                                                                                                                                                                   |
| <b>Eye protection:</b>                                                   | Wear safety goggles or face shield. Industrial/professional, ensure eyewash and showers are in the proximity to workstation location.                                                                  |
| <b>Other information:</b>                                                | Avoid contact with the substance or contaminated objects, Ensure regular cleaning of equipment and work area, good personal hygiene, staff training and management/supervision are in place.           |
| <b>4. Physical form of substance / preparation / mixture or article</b>  |                                                                                                                                                                                                        |
| <b>Information on basic physical and chemical properties:</b>            | Solid, crystalline, acidic as a liquid                                                                                                                                                                 |
| <b>5. Product specification</b>                                          |                                                                                                                                                                                                        |
| <b>Physical form of the product:</b>                                     | Part of a preparation can be a liquid or solid.                                                                                                                                                        |
| <b>Concentration of substance in preparation / mixture or article:</b>   | Users to specify                                                                                                                                                                                       |
| <b>Service life of substances in articles:</b>                           | Users to specify                                                                                                                                                                                       |
| <b>6. Risk Management Measures</b>                                       |                                                                                                                                                                                                        |
| <b>Occupational exposure controls:</b>                                   | Keep area well ventilated                                                                                                                                                                              |
| <b>Environmental Exposure Controls:</b>                                  | Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. The substance is biodegradable, has a low Kow and is not expected to bioaccumulate.                |
| <b>7. Consumer use:</b>                                                  | Good hygiene and housekeeping                                                                                                                                                                          |
| <b>8. Waste management measures</b>                                      |                                                                                                                                                                                                        |
| <b>Description and information on safe handling of surplus or waste:</b> | Neutralise before treatment in a sewage treatment plant. Disposal untreated waste should be in accordance with local, state or national legislation.                                                   |
| <b>9. Exposure assessment</b>                                            |                                                                                                                                                                                                        |
| <b>Human exposure prediction:</b>                                        |                                                                                                                                                                                                        |
| <b>Workers:</b>                                                          | Long term exposure during application.                                                                                                                                                                 |
| <b>Consumers:</b>                                                        | Long term exposure to low concentrations during application/use.                                                                                                                                       |
| <b>Method:</b>                                                           | Not applicable                                                                                                                                                                                         |
| <b>Exposure estimation:</b>                                              | Not known                                                                                                                                                                                              |
| <b>Secondary Poisoning:</b>                                              | Not expected                                                                                                                                                                                           |
| <b>Indirect exposure to humans via the environment:</b>                  | Not expected                                                                                                                                                                                           |
| <b>10. Other information</b>                                             |                                                                                                                                                                                                        |
| <b>Control parameters:</b>                                               | Refer to the eSDS                                                                                                                                                                                      |
| <b>Method to check compliance:</b>                                       | Management/supervision to check that the RMMs in place are being used correctly and OCS followed. Ensure staff and workers receive adequate training with regular updates in the handling of chemicals |

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| <b>7. Exposure Scenario</b>                                         |                                                                                                                                         |
| <b>Use of citric acid Polymers and plastics. Industrial</b>         |                                                                                                                                         |
| <b>2. Processes and activities covered by the exposure scenario</b> |                                                                                                                                         |
| <b>Sector of end use (SU):</b>                                      | 03. Industrial uses: Uses of substances as such or in preparations/mixtures at industrial sites                                         |
| <b>Chemical product category (PC):</b>                              | 32. Polymer preparations and compounds                                                                                                  |
| <b>Process category (PROC):</b>                                     | 03. Use in closed batch process (synthesis or formulation)                                                                              |
|                                                                     | 05. Mixing or blending in batch processes for formulation of preparations/mixtures and articles (multistage and/or significant contact) |
|                                                                     | 08a. Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities           |
|                                                                     | 08b. Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities               |
| <b>Article Categories [AC]:</b>                                     | Not applicable                                                                                                                          |
| <b>Environmental release category (ERC):</b>                        | 06b. Industrial use of reactive processing aids                                                                                         |

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| <b>3. Operational conditions of use</b>                                  |                                                                                                                                                                                                                          |
| <b>Control parameters:</b>                                               | Precautionary measures against electrostatic discharge to be taken. LEV and respiratory protection to be taken in areas where workers may come into contact with dust. Implement basic standards of occupational hygiene |
| <b>Duration and frequency of use:</b>                                    | Users to specify                                                                                                                                                                                                         |
| <b>Maximum amount per time or activity:</b>                              | Users to specify                                                                                                                                                                                                         |
| <b>Other operational conditions of use:</b>                              | Avoid splashes and spills. Minimise manual handling.                                                                                                                                                                     |
| <b>Engineering control measures:</b>                                     | Local exhaust ventilation. Exposure limit values: Not known                                                                                                                                                              |
| <b>Other protective equipment:</b>                                       | Good hygiene and housekeeping                                                                                                                                                                                            |
| <b>Respiratory protection:</b>                                           | Required where ventilation is insufficient or exposure is prolonged                                                                                                                                                      |
| <b>Hand protection:</b>                                                  | Rubber or PVC gloves                                                                                                                                                                                                     |
| <b>Eye protection:</b>                                                   | Wear safety goggles or face shield. Industrial professional - ensure eyewash and showers are in the proximity to workstation location.                                                                                   |
| <b>Other information:</b>                                                | Avoid contact with the substance or contaminated objects, Ensure regular cleaning of equipment and work area, good personal hygiene, staff training and management/supervision are in place.                             |
| <b>4. Physical form of substance / preparation / mixture or article</b>  |                                                                                                                                                                                                                          |
| <b>Information on basic physical and chemical properties:</b>            | Solid, crystalline, acidic as a liquid                                                                                                                                                                                   |
| <b>5. Product specification</b>                                          |                                                                                                                                                                                                                          |
| <b>Physical form of the product:</b>                                     | Part of a preparation can be a liquid or solid.                                                                                                                                                                          |
| <b>Concentration of substance in preparation / mixture or article:</b>   | Users to specify                                                                                                                                                                                                         |
| <b>Service life of substances in articles:</b>                           | Users to specify                                                                                                                                                                                                         |
| <b>6. Risk Management Measures</b>                                       |                                                                                                                                                                                                                          |
| <b>Occupational exposure controls:</b>                                   | Keep area well ventilated. Precautions against dust explosion and irritation caused by dust inhalation.                                                                                                                  |
| <b>Environmental Exposure Controls:</b>                                  | Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. The substance is biodegradable, has a low Kow and is not expected to bioaccumulate.                                  |
| <b>7. Consumer use:</b>                                                  | Not applicable                                                                                                                                                                                                           |
| <b>8. Waste management measures</b>                                      |                                                                                                                                                                                                                          |
| <b>Description and information on safe handling of surplus or waste:</b> | Neutralise before treatment in a sewage treatment plant. Disposal untreated waste should be in accordance with local, state or national legislation.                                                                     |
| <b>9. Exposure assessment</b>                                            |                                                                                                                                                                                                                          |
| <b>Human exposure prediction:</b>                                        |                                                                                                                                                                                                                          |
| <b>Workers:</b>                                                          | Long term exposure during application. Use of PPE will to minimise handling and contact.                                                                                                                                 |
| <b>Consumers:</b>                                                        | Not applicable                                                                                                                                                                                                           |
| <b>Method:</b>                                                           | Not applicable                                                                                                                                                                                                           |
| <b>Exposure estimation:</b>                                              | Not known                                                                                                                                                                                                                |
| <b>Secondary Poisoning:</b>                                              | Not expected                                                                                                                                                                                                             |
| <b>Indirect exposure to humans via the environment:</b>                  | Not expected                                                                                                                                                                                                             |
| <b>10. Other information</b>                                             |                                                                                                                                                                                                                          |
| <b>Control parameters:</b>                                               | Refer to the eSDS                                                                                                                                                                                                        |
| <b>Method to check compliance:</b>                                       | Management/supervision to check that the RMMs in place are being used correctly and OCs followed. Ensure staff and workers receive adequate training with regular updates in the handling of chemicals                   |

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| <b>8. Exposure Scenario</b>                                         |                                                                                              |
| Use of citric acid in oil industry. Industrial.                     |                                                                                              |
| <b>2. Processes and activities covered by the exposure scenario</b> |                                                                                              |
| <b>Sector of end use (SU):</b>                                      | 02. Offshore industries                                                                      |
|                                                                     | 03. Industrial uses: Uses of substances as such or in preparations/mixtures industrial sites |
| <b>Chemical product category (PC):</b>                              | 20. Products such as ph-regulators, flocculants, precipitants, neutralization agents         |

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|                                                                          | 40. Other                                                                                                                                                                                                                |
| <b>Process category (PROC):</b>                                          | 03. Use in closed batch process (synthesis or formulation)                                                                                                                                                               |
|                                                                          | 04. Use in batch and other process (synthesis) where opportunity for exposure arises                                                                                                                                     |
|                                                                          | 05. Mixing or blending in batch processes for formulation of preparations/mixtures and articles (multistage and/or significant contact)                                                                                  |
|                                                                          | 08a. Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities                                                                                            |
|                                                                          | 08b. Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities                                                                                                |
| <b>Article Categories [AC]:</b>                                          | Not applicable                                                                                                                                                                                                           |
| <b>Environmental release category (ERC):</b>                             | 8d. Wide dispersive outdoor use of processing aids in open systems                                                                                                                                                       |
| <b>3. Operational conditions of use</b>                                  |                                                                                                                                                                                                                          |
| <b>Control parameters:</b>                                               | Precautionary measures against electrostatic discharge to be taken. LEV and respiratory protection to be taken in areas where workers may come into contact with dust. Implement basic standards of occupational hygiene |
| <b>Duration and frequency of use:</b>                                    | Users to specify                                                                                                                                                                                                         |
| <b>Maximum amount per time or activity:</b>                              | Users to specify                                                                                                                                                                                                         |
| <b>Other operational conditions of use:</b>                              | Avoid splashes and spills.                                                                                                                                                                                               |
| <b>Engineering control measures:</b>                                     | Keep area well ventilated. Exposure limit values: Not known                                                                                                                                                              |
| <b>Other protective equipment:</b>                                       | Good hygiene and housekeeping                                                                                                                                                                                            |
| <b>Respiratory protection:</b>                                           | Required where ventilation is insufficient or exposure is prolonged                                                                                                                                                      |
| <b>Hand protection:</b>                                                  | Rubber or PVC gloves                                                                                                                                                                                                     |
| <b>Eye protection:</b>                                                   | Wear safety goggles or face shield. Industrial/professional, ensure eyewash and showers are in the proximity to workstation location.                                                                                    |
| <b>Other information:</b>                                                | Avoid contact with the substance or contaminated objects, Ensure regular cleaning of equipment and work area, good personal hygiene, staff training and management/supervision are in place                              |
| <b>4. Physical form of substance / preparation / mixture or article</b>  |                                                                                                                                                                                                                          |
| <b>Information on basic physical and chemical properties:</b>            | Solid, crystalline, acidic as a liquid                                                                                                                                                                                   |
| <b>5. Product specification</b>                                          |                                                                                                                                                                                                                          |
| <b>Physical form of the product:</b>                                     | Part of a preparation can be a liquid or solid.                                                                                                                                                                          |
| <b>Concentration of substance in preparation / mixture or article:</b>   | Users to specify                                                                                                                                                                                                         |
| <b>Service life of substances in articles:</b>                           | Users to specify                                                                                                                                                                                                         |
| <b>6. Risk Management Measures</b>                                       |                                                                                                                                                                                                                          |
| <b>Occupational exposure controls:</b>                                   | Keep area well ventilated                                                                                                                                                                                                |
| <b>Environmental Exposure Controls:</b>                                  | Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. The substance is biodegradable, has a low Kow and is not expected to bioaccumulate.                                  |
| <b>7. Consumer use:</b>                                                  | Not applicable                                                                                                                                                                                                           |
| <b>8. Waste management measures</b>                                      |                                                                                                                                                                                                                          |
| <b>Description and information on safe handling of surplus or waste:</b> | Neutralise before treatment in a sewage treatment plant. Disposal untreated waste should be in accordance with local, state or national legislation.                                                                     |
| <b>9. Exposure assessment</b>                                            |                                                                                                                                                                                                                          |
| <b>Human exposure prediction:</b>                                        |                                                                                                                                                                                                                          |
| <b>Workers:</b>                                                          | Long term exposure during application. Use of PPE will to minimise handling and contact.                                                                                                                                 |
| <b>Consumers:</b>                                                        | Not applicable                                                                                                                                                                                                           |
| <b>Method:</b>                                                           | Not applicable                                                                                                                                                                                                           |
| <b>Exposure estimation:</b>                                              | Not known                                                                                                                                                                                                                |
| <b>Secondary Poisoning:</b>                                              | Not expected                                                                                                                                                                                                             |
| <b>Indirect exposure to humans via the environment:</b>                  | Not expected                                                                                                                                                                                                             |
| <b>10. Other information</b>                                             |                                                                                                                                                                                                                          |
| <b>Control parameters:</b>                                               | Refer to the eSDS                                                                                                                                                                                                        |
| <b>Method to check compliance:</b>                                       | Management/supervision to check that the RMMs in place are being used correctly and OCs followed. Ensure staff and workers receive adequate training with regular updates in the                                         |

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|                                                                                        | handling of chemicals                                                                                                                                                                                                    |
| <b>9. Exposure Scenario</b>                                                            |                                                                                                                                                                                                                          |
| Use of citric acid in paints and coatings. Industrial, professional and consumer users |                                                                                                                                                                                                                          |
| <b>2. Processes and activities covered by the exposure scenario</b>                    |                                                                                                                                                                                                                          |
| <b>Sector of end use (SU):</b>                                                         | 03. Industrial uses: Uses of substances as such or in preparations/mixtures at industrial sites                                                                                                                          |
|                                                                                        | 17. General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment                                                                                                                                |
|                                                                                        | 18. Manufacture of furniture                                                                                                                                                                                             |
|                                                                                        | 19. Building and construction work                                                                                                                                                                                       |
|                                                                                        | 21. Consumer uses: Private households (= general public = consumers)                                                                                                                                                     |
|                                                                                        | 22. Professional uses: Public domain (administration, education, entertainment, services, craftsmen)                                                                                                                     |
| <b>Chemical product category (PC):</b>                                                 | 09a. Coatings and paints, thinners, paint removers                                                                                                                                                                       |
|                                                                                        | 9b. Fillers, putties, plasters, modelling clay                                                                                                                                                                           |
|                                                                                        | 18. Ink and toners                                                                                                                                                                                                       |
|                                                                                        | 34. Textile dyes, finishing and impregnating products; including bleaches and other processing aids                                                                                                                      |
| <b>Process category (PROC):</b>                                                        | 07. Industrial spraying                                                                                                                                                                                                  |
|                                                                                        | 08a. Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at nondedicated facilities                                                                                             |
|                                                                                        | 08b. Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities                                                                                                |
|                                                                                        | 10. Roller application or brushing                                                                                                                                                                                       |
|                                                                                        | 11. Non industrial spraying                                                                                                                                                                                              |
|                                                                                        | 19. Hand-mixing with intimate contact and only PPE available                                                                                                                                                             |
|                                                                                        | 24. High (mechanical) energy work-up of substances bound in materials and/or articles                                                                                                                                    |
| <b>Article Categories [AC]:</b>                                                        | 04. Stone, plaster, cement, glass and ceramic articles                                                                                                                                                                   |
|                                                                                        | 11. Wood articles                                                                                                                                                                                                        |
| <b>Environmental release category (ERC):</b>                                           | 05. Industrial use resulting in inclusion into or onto a matrix                                                                                                                                                          |
|                                                                                        | 08c. Wide dispersive indoor use resulting in inclusion into or onto a matrix                                                                                                                                             |
|                                                                                        | 08f. Wide dispersive outdoor use resulting in inclusion into or onto a matrix                                                                                                                                            |
|                                                                                        | 10a. Wide dispersive outdoor use of long-life articles and materials with low release                                                                                                                                    |
|                                                                                        | 10b. Wide dispersive outdoor use of long-life articles and materials with high or in-tended release (including abrasive processing)                                                                                      |
|                                                                                        | 11a. Wide dispersive indoor use of long-life articles and materials with low release                                                                                                                                     |
|                                                                                        | 11b. Wide dispersive indoor use of long-life articles and materials with high or intended release (including abrasive processing)                                                                                        |
| <b>3. Operational conditions of use</b>                                                |                                                                                                                                                                                                                          |
| <b>Control parameters:</b>                                                             | Precautionary measures against electrostatic discharge to be taken. LEV and respiratory protection to be taken in areas where workers may come into contact with dust. Implement basic standards of occupational hygiene |
| <b>Duration and frequency of use:</b>                                                  | Users to specify                                                                                                                                                                                                         |
| <b>Maximum amount per time or activity:</b>                                            | Users to specify                                                                                                                                                                                                         |
| <b>Other operational conditions of use:</b>                                            | Avoid splashes and spills.                                                                                                                                                                                               |
| <b>Engineering control measures:</b>                                                   | Keep area well ventilated. Exposure limit values: Not known                                                                                                                                                              |
| <b>Other protective equipment:</b>                                                     | Good hygiene and housekeeping                                                                                                                                                                                            |
| <b>Respiratory protection:</b>                                                         | Required where ventilation is insufficient or exposure is prolonged                                                                                                                                                      |
| <b>Hand protection:</b>                                                                | Rubber or PVC gloves                                                                                                                                                                                                     |
| <b>Eye protection:</b>                                                                 | Wear safety goggles or face shield. Industrial professional - ensure eyewash and showers are in the proximity to workstation location.                                                                                   |
| <b>Other information:</b>                                                              | Avoid contact with the substance or contaminated objects, Ensure regular cleaning of equipment and work area, good personal hygiene, staff training and management/supervision are in place.                             |
| <b>4. Physical form of substance / preparation / mixture or article</b>                |                                                                                                                                                                                                                          |
| <b>Information on basic physical and chemical properties:</b>                          | Solid, crystalline, acidic as a liquid                                                                                                                                                                                   |
| <b>5. Product specification</b>                                                        |                                                                                                                                                                                                                          |

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| <b>Physical form of the product:</b>                                     | Part of a preparation can be a liquid or solid.                                                                                                                                                        |
| <b>Concentration of substance in preparation / mixture or article:</b>   | Formulators information                                                                                                                                                                                |
| <b>Service life of substances in articles:</b>                           |                                                                                                                                                                                                        |
| <b>6. Risk Management Measures</b>                                       |                                                                                                                                                                                                        |
| <b>Occupational exposure controls:</b>                                   | Keep area well ventilated                                                                                                                                                                              |
| <b>Environmental Exposure Controls:</b>                                  | Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. The substance is biodegradable, has a low Kow and is not expected to bioaccumulate.                |
| <b>7. Consumer use:</b>                                                  | Good hygiene and housekeeping                                                                                                                                                                          |
| <b>8. Waste management measures</b>                                      |                                                                                                                                                                                                        |
| <b>Description and information on safe handling of surplus or waste:</b> | Neutralise before treatment in a sewage treatment plant. Disposal untreated waste should be in accordance with local, state or national legislation.                                                   |
| <b>9. Exposure assessment</b>                                            |                                                                                                                                                                                                        |
| <b>Human exposure prediction:</b>                                        |                                                                                                                                                                                                        |
| <b>Workers:</b>                                                          | Short term during formulation. Long term exposure during application. Use of PPE will to minimise handling and contact.                                                                                |
| <b>Consumers:</b>                                                        | Exposure to low concentrations during application/use                                                                                                                                                  |
| <b>Method:</b>                                                           | Not applicable                                                                                                                                                                                         |
| <b>Exposure estimation:</b>                                              | Not known                                                                                                                                                                                              |
| <b>Secondary Poisoning:</b>                                              | Not expected                                                                                                                                                                                           |
| <b>Indirect exposure to humans via the environment:</b>                  | Not expected                                                                                                                                                                                           |
| <b>10. Other information</b>                                             |                                                                                                                                                                                                        |
| <b>Control parameters:</b>                                               | Refer to the eSDS                                                                                                                                                                                      |
| <b>Method to check compliance:</b>                                       | Management/supervision to check that the RMMs in place are being used correctly and OCs followed. Ensure staff and workers receive adequate training with regular updates in the handling of chemicals |

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| <b>10. Exposure Scenario</b>                                                       |                                                                                                                                                                                                                          |
| <b>Use of citric acid in photography products. Professional and consumer users</b> |                                                                                                                                                                                                                          |
| <b>2. Processes and activities covered by the exposure scenario</b>                |                                                                                                                                                                                                                          |
| <b>Sector of end use (SU):</b>                                                     | 03. Industrial uses: Uses of substances as such or in preparations/mixtures at industrial sites                                                                                                                          |
|                                                                                    | 20. Health services                                                                                                                                                                                                      |
|                                                                                    | 21. Consumer uses: Private households (= general public = consumers)                                                                                                                                                     |
|                                                                                    | 22. Professional uses: Public domain (administration, education, entertainment, services, craftsmen)                                                                                                                     |
| <b>Chemical product category (PC):</b>                                             | 30. Photo-chemicals                                                                                                                                                                                                      |
| <b>Process category (PROC):</b>                                                    | 05. Mixing or blending in batch processes for formulation of preparations/mixtures and articles (multistage and/or significant contact)                                                                                  |
|                                                                                    | 13. Treatment of articles by dipping and pouring                                                                                                                                                                         |
| <b>Article Categories [AC]:</b>                                                    | Not applicable                                                                                                                                                                                                           |
| <b>Environmental release category (ERC):</b>                                       | 08a Wide dispersive indoor use of processing aids in open systems                                                                                                                                                        |
| <b>3. Operational conditions of use</b>                                            |                                                                                                                                                                                                                          |
| <b>Control parameters:</b>                                                         | Precautionary measures against electrostatic discharge to be taken. LEV and respiratory protection to be taken in areas where workers may come into contact with dust. Implement basic standards of occupational hygiene |
| <b>Duration and frequency of use:</b>                                              | Users to specify                                                                                                                                                                                                         |
| <b>Maximum amount per time or activity:</b>                                        | Users to specify                                                                                                                                                                                                         |
| <b>Other operational conditions of use:</b>                                        | Avoid splashes and spills.                                                                                                                                                                                               |
| <b>Engineering control measures:</b>                                               | Keep area well ventilated. Exposure limit values: Not known                                                                                                                                                              |
| <b>Other protective equipment:</b>                                                 | Good hygiene and housekeeping                                                                                                                                                                                            |
| <b>Respiratory protection:</b>                                                     | Required where ventilation is insufficient or exposure is prolonged                                                                                                                                                      |
| <b>Hand protection:</b>                                                            | Rubber or PVC gloves                                                                                                                                                                                                     |

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| <b>Eye protection:</b>                                                   | Wear safety goggles or face shield. Professional - ensure eyewash and showers are in the proximity to workstation location.                                                                            |
| <b>Other information:</b>                                                | Avoid contact with the substance or contaminated objects, Ensure regular cleaning of equipment and work area, good personal hygiene, staff training and management/supervision are in place.           |
| <b>4. Physical form of substance / preparation / mixture or article</b>  |                                                                                                                                                                                                        |
| <b>Information on basic physical and chemical properties:</b>            | Solid, crystalline, acidic as a liquid                                                                                                                                                                 |
| <b>5. Product specification</b>                                          |                                                                                                                                                                                                        |
| <b>Physical form of the product:</b>                                     | Part of a preparation can be a liquid or solid.                                                                                                                                                        |
| <b>Concentration of substance in preparation / mixture or article:</b>   | Formulators information                                                                                                                                                                                |
| <b>Service life of substances in articles:</b>                           |                                                                                                                                                                                                        |
| <b>6. Risk Management Measures</b>                                       |                                                                                                                                                                                                        |
| <b>Occupational exposure controls:</b>                                   | Keep area well ventilated                                                                                                                                                                              |
| <b>Environmental Exposure Controls:</b>                                  | Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. The substance is biodegradable, has a low Kow and is not expected to bioaccumulate.                |
| <b>7. Consumer use:</b>                                                  | Good hygiene and housekeeping                                                                                                                                                                          |
| <b>8. Waste management measures</b>                                      |                                                                                                                                                                                                        |
| <b>Description and information on safe handling of surplus or waste:</b> | Neutralise before treatment in a sewage treatment plant. Disposal untreated waste should be in accordance with local, state or national legislation.                                                   |
| <b>9. Exposure assessment</b>                                            |                                                                                                                                                                                                        |
| <b>Human exposure prediction:</b>                                        |                                                                                                                                                                                                        |
| <b>Workers:</b>                                                          | Short term during formulation. Long term exposure during application                                                                                                                                   |
| <b>Consumers:</b>                                                        | Exposure to low concentrations during application/use                                                                                                                                                  |
| <b>Method:</b>                                                           | Not applicable                                                                                                                                                                                         |
| <b>Exposure estimation:</b>                                              | Not known                                                                                                                                                                                              |
| <b>Secondary Poisoning:</b>                                              | Not expected                                                                                                                                                                                           |
| <b>Indirect exposure to humans via the environment:</b>                  | Not expected                                                                                                                                                                                           |
| <b>10. Other information</b>                                             |                                                                                                                                                                                                        |
| <b>Control parameters:</b>                                               | Refer to the eSDS                                                                                                                                                                                      |
| <b>Method to check compliance:</b>                                       | Management/supervision to check that the RMMs in place are being used correctly and OCs followed. Ensure staff and workers receive adequate training with regular updates in the handling of chemicals |

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| <b>11. Exposure Scenario</b>                                        |                                                                                                                               |
| <b>Use of citric acid in textiles. Industrial</b>                   |                                                                                                                               |
| <b>2. Processes and activities covered by the exposure scenario</b> |                                                                                                                               |
| <b>Sector of end use (SU):</b>                                      | 03. Industrial uses: Uses of substances as such or in preparations/mixtures industrial sites                                  |
|                                                                     | 05. Manufacture of textiles, leather, fur                                                                                     |
| <b>Chemical product category (PC):</b>                              | 20. Products such as ph-regulators, flocculants, precipitants, neutralization agents                                          |
|                                                                     | 23. Leather tanning, dye, finishing, impregnation and care products                                                           |
|                                                                     | 24. Lubricants, greases, release products                                                                                     |
| <b>Process category (PROC):</b>                                     | 08a. Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities |
|                                                                     | 08b. Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities     |
|                                                                     | 10. Roller application or brushing                                                                                            |
|                                                                     | 13. Treatment of articles by dipping and pouring                                                                              |
|                                                                     | 22. Potentially closed processing operations with minerals/metals at elevated temperature                                     |
| <b>Article Categories [AC]:</b>                                     | 05. Fabrics, textiles and apparel                                                                                             |
|                                                                     | 06. Leather articles                                                                                                          |

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| <b>Environmental release category (ERC):</b>                             | 04. Industrial use of processing aids in processes and products, not becoming part of articles                                                                                                                           |
| <b>3. Operational conditions of use</b>                                  |                                                                                                                                                                                                                          |
| <b>Control parameters:</b>                                               | Precautionary measures against electrostatic discharge to be taken. LEV and respiratory protection to be taken in areas where workers may come into contact with dust. Implement basic standards of occupational hygiene |
| <b>Duration and frequency of use:</b>                                    | Users to specify                                                                                                                                                                                                         |
| <b>Maximum amount per time or activity:</b>                              | Users to specify                                                                                                                                                                                                         |
| <b>Other operational conditions of use:</b>                              | Avoid splashes and spills.                                                                                                                                                                                               |
| <b>Engineering control measures:</b>                                     | Keep area well ventilated. Exposure limit values: Not known                                                                                                                                                              |
| <b>Other protective equipment:</b>                                       | Good hygiene and housekeeping                                                                                                                                                                                            |
| <b>Respiratory protection:</b>                                           | Required where ventilation is insufficient or exposure is prolonged                                                                                                                                                      |
| <b>Hand protection:</b>                                                  | Rubber or PVC gloves                                                                                                                                                                                                     |
| <b>Eye protection:</b>                                                   | Wear safety goggles or face shield. Ensure eyewash and showers are in the proximity to workstation location.                                                                                                             |
| <b>Other information:</b>                                                | Avoid contact with the substance or contaminated objects, Ensure regular cleaning of equipment and work area, good personal hygiene, staff training and Management/ supervision are in place.                            |
| <b>4. Physical form of substance / preparation / mixture or article</b>  |                                                                                                                                                                                                                          |
| <b>Information on basic physical and chemical properties:</b>            | Solid, crystalline, acidic as a liquid                                                                                                                                                                                   |
| <b>5. Product specification</b>                                          |                                                                                                                                                                                                                          |
| <b>Physical form of the product:</b>                                     | Part of a preparation can be a liquid or solid.                                                                                                                                                                          |
| <b>Concentration of substance in preparation / mixture or article:</b>   | Users to specify                                                                                                                                                                                                         |
| <b>Service life of substances in articles:</b>                           | Users to specify                                                                                                                                                                                                         |
| <b>6. Risk Management Measures</b>                                       |                                                                                                                                                                                                                          |
| <b>Occupational exposure controls:</b>                                   | Keep area well ventilated                                                                                                                                                                                                |
| <b>Environmental Exposure Controls:</b>                                  | Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. The substance is biodegradable, has a low Kow and is not expected to bioaccumulate.                                  |
| <b>7. Consumer use:</b>                                                  | Not applicable                                                                                                                                                                                                           |
| <b>8. Waste management measures</b>                                      |                                                                                                                                                                                                                          |
| <b>Description and information on safe handling of surplus or waste:</b> | Neutralise before treatment in a sewage treatment plant. Disposal untreated waste should be in accordance with local, state or national legislation.                                                                     |
| <b>9. Exposure assessment</b>                                            |                                                                                                                                                                                                                          |
| <b>Human exposure prediction:</b>                                        |                                                                                                                                                                                                                          |
| <b>Workers:</b>                                                          | Long term exposure during application.<br>Use of PPE will to minimise handling and contact.                                                                                                                              |
| <b>Consumers:</b>                                                        | Not applicable<br>.                                                                                                                                                                                                      |
| <b>Method:</b>                                                           | Not applicable                                                                                                                                                                                                           |
| <b>Exposure estimation:</b>                                              | Not known                                                                                                                                                                                                                |
| <b>Secondary Poisoning:</b>                                              | Not expected                                                                                                                                                                                                             |
| <b>Indirect exposure to humans via the environment:</b>                  | Not expected                                                                                                                                                                                                             |
| <b>10. Other information</b>                                             |                                                                                                                                                                                                                          |
| <b>Control parameters:</b>                                               | Refer to the Esds                                                                                                                                                                                                        |
| <b>Method to check compliance:</b>                                       | Management/supervision to check that the RMMs in place are being used correctly and OCs followed. Ensure staff and workers receive adequate training with regular updates in the handling of chemicals                   |

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| <b>12. Exposure Scenario</b>                                        |
| Use of citric acid in laboratory agents. Industrial users           |
| <b>2. Processes and activities covered by the exposure scenario</b> |



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| <b>Sector of end use (SU):</b>                                           | 03. Industrial uses: Uses of substances as such or in preparations/mixtures at industrial sites                                                                                                                          |
| <b>Chemical product category (PC):</b>                                   | 04. Anti-Freeze and de-icing products                                                                                                                                                                                    |
|                                                                          | 16. Heat transfer fluids                                                                                                                                                                                                 |
|                                                                          | 20. Products such as ph-regulators, flocculants, precipitants, neutralization agents                                                                                                                                     |
|                                                                          | 37. Water treatment chemicals                                                                                                                                                                                            |
| <b>Process category (PROC):</b>                                          | 01. Use in closed process, no likelihood of exposure                                                                                                                                                                     |
|                                                                          | 02. Use in closed, continuous process with occasional controlled exposure                                                                                                                                                |
|                                                                          | 03. Use in closed batch process (synthesis or formulation)                                                                                                                                                               |
|                                                                          | 04. Use in batch and other process (synthesis) where opportunity for exposure arises                                                                                                                                     |
|                                                                          | 08a. Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities                                                                                            |
| <b>Article Categories [AC]:</b>                                          | Not applicable                                                                                                                                                                                                           |
| <b>Environmental release category (ERC):</b>                             | 04. Industrial use of processing aids in processes and products, not becoming part of articles                                                                                                                           |
|                                                                          | 07. Industrial use of sub-stances in closed systems                                                                                                                                                                      |
| <b>3. Operational conditions of use</b>                                  |                                                                                                                                                                                                                          |
| <b>Control parameters:</b>                                               | Precautionary measures against electrostatic discharge to be taken. LEV and respiratory protection to be taken in areas where workers may come into contact with dust. Implement basic standards of occupational hygiene |
| <b>Duration and frequency of use:</b>                                    | Users to specify                                                                                                                                                                                                         |
| <b>Maximum amount per time or activity:</b>                              | Users to specify                                                                                                                                                                                                         |
| <b>Other operational conditions of use:</b>                              | Avoid splashes and spills.                                                                                                                                                                                               |
| <b>Engineering control measures:</b>                                     | Keep area well ventilated. Exposure limit values: Not known                                                                                                                                                              |
| <b>Other protective equipment:</b>                                       | Good hygiene and housekeeping                                                                                                                                                                                            |
| <b>Respiratory protection:</b>                                           | Required where ventilation is insufficient or exposure is prolonged                                                                                                                                                      |
| <b>Hand protection:</b>                                                  | Rubber or PVC gloves                                                                                                                                                                                                     |
| <b>Eye protection:</b>                                                   | Wear safety goggles or face shield. Ensure eyewash and showers are in the proximity to workstation location.                                                                                                             |
| <b>Other information:</b>                                                | Avoid contact with the substance or contaminated objects, Ensure regular cleaning of equipment and work area; good personal hygiene, staff training and management/supervision are in place.                             |
| <b>4. Physical form of substance / preparation / mixture or article</b>  |                                                                                                                                                                                                                          |
| <b>Information on basic physical and chemical properties:</b>            | Solid, crystalline, acidic as a liquid                                                                                                                                                                                   |
| <b>5. Product specification</b>                                          |                                                                                                                                                                                                                          |
| <b>Physical form of the product:</b>                                     | Part of a preparation can be a liquid or solid.                                                                                                                                                                          |
| <b>Concentration of substance in preparation / mixture or article:</b>   | Formulators information                                                                                                                                                                                                  |
| <b>Service life of substances in articles:</b>                           |                                                                                                                                                                                                                          |
| <b>6. Risk Management Measures</b>                                       |                                                                                                                                                                                                                          |
| <b>Occupational exposure controls:</b>                                   | Keep area well ventilated                                                                                                                                                                                                |
| <b>Environmental Exposure Controls:</b>                                  | Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. The substance is biodegradable, has a low Kow and is not expected to bioaccumulate.                                  |
| <b>7. Consumer use:</b>                                                  | Not applicable                                                                                                                                                                                                           |
| <b>8. Waste management measures</b>                                      |                                                                                                                                                                                                                          |
| <b>Description and information on safe handling of surplus or waste:</b> | Neutralise before treatment in a sewage treatment plant. Disposal untreated waste should be in accordance with local, state or national legislation.                                                                     |
| <b>9. Exposure assessment</b>                                            |                                                                                                                                                                                                                          |
| <b>Human exposure prediction:</b>                                        |                                                                                                                                                                                                                          |
| <b>Workers:</b>                                                          | Short term during formulation. Long term exposure during application. Use of PPE will to minimise handling and contact.                                                                                                  |
| <b>Consumers:</b>                                                        | Not applicable                                                                                                                                                                                                           |
| <b>Method:</b>                                                           | Not applicable                                                                                                                                                                                                           |
| <b>Exposure estimation:</b>                                              | Not known                                                                                                                                                                                                                |

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| <b>Secondary Poisoning:</b>                             | Not expected                                                                                                                                                                                           |
| <b>Indirect exposure to humans via the environment:</b> | Not expected                                                                                                                                                                                           |
| <b>10. Other information</b>                            |                                                                                                                                                                                                        |
| <b>Control parameters:</b>                              | Refer to the eSDS                                                                                                                                                                                      |
| <b>Method to check compliance:</b>                      | Management/supervision to check that the RMMs in place are being used correctly and OCs followed. Ensure staff and workers receive adequate training with regular updates in the handling of chemicals |

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| <b>13. Exposure Scenario</b>                                        |                                                                                                                               |
| <b>Use of citric acid in water treatment. Industrial</b>            |                                                                                                                               |
| <b>2. Processes and activities covered by the exposure scenario</b> |                                                                                                                               |
| <b>Sector of end use (SU):</b>                                      | 03. Industrial uses: Uses of substances as such or in preparations/mixtures at industrial sites                               |
|                                                                     | 14. Manufacture of basic metals, including alloys                                                                             |
|                                                                     | 15. Manufacture of fabricated metal products, except machinery and equipment                                                  |
|                                                                     | 16. Manufacture of computer, electronic and optical products, electrical equipment                                            |
|                                                                     | 17. General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment                                     |
| <b>Chemical product category (PC):</b>                              | 04. Anti-Freeze and de-icing products                                                                                         |
|                                                                     | 07. Base metals and alloys                                                                                                    |
|                                                                     | 14. Metal surface treatment products, including galvanic and electroplating products                                          |
|                                                                     | 16. Heat transfer fluids                                                                                                      |
|                                                                     | 17. Hydraulic fluids                                                                                                          |
|                                                                     | 20. Products such as ph-regulators, flocculants, precipitants, neutralization agents                                          |
|                                                                     | 25. Metal working fluids                                                                                                      |
|                                                                     | 26. Paper and board dye, finishing and impregnation products: including bleaches and other processing aids                    |
|                                                                     | 35. Washing and cleaning products (including solvent based products)                                                          |
|                                                                     | 37. Water treatment chemicals                                                                                                 |
| <b>Process category (PROC):</b>                                     | 01. Use in closed process, no likelihood of exposure                                                                          |
|                                                                     | 02. Use in closed, continuous process with occasional controlled exposure                                                     |
|                                                                     | 03. Use in closed batch process (synthesis or formulation)                                                                    |
|                                                                     | 04. Use in batch and other process (synthesis) where opportunity for exposure arises                                          |
|                                                                     | 07. Industrial spraying                                                                                                       |
|                                                                     | 08a. Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities |
|                                                                     | 08b. Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities     |
|                                                                     | 09. Transfer of substance or preparation into small containers (dedicated filling line, including weighing)                   |
|                                                                     | 10. Roller application or brushing                                                                                            |
|                                                                     | 13. Treatment of articles by dipping and pouring                                                                              |
|                                                                     | 18. Greasing at high energy conditions                                                                                        |
|                                                                     | 20. Heat and pressure transfer fluids in dispersive, professional use but closed systems                                      |
|                                                                     | 25. Other hot work operations with metals                                                                                     |
| <b>Article Categories [AC]:</b>                                     | Not applicable                                                                                                                |
| <b>Environmental release category (ERC):</b>                        | 04. Industrial use of processing aids in processes and products, not becoming part of articles                                |

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|                                                                          | 07. Industrial use of sub-stances in closed systems                                                                                                                                                                      |
| <b>3. Operational conditions of use</b>                                  |                                                                                                                                                                                                                          |
| <b>Control parameters:</b>                                               | Precautionary measures against electrostatic discharge to be taken. LEV and respiratory protection to be taken in areas where workers may come into contact with dust. Implement basic standards of occupational hygiene |
| <b>Duration and frequency of use:</b>                                    | Users to specify                                                                                                                                                                                                         |
| <b>Maximum amount per time or activity:</b>                              | Users to specify                                                                                                                                                                                                         |
| <b>Other operational conditions of use:</b>                              | Avoid splashes and spills. Minimise manual handling.                                                                                                                                                                     |
| <b>Engineering control measures:</b>                                     | Local exhaust ventilation. Exposure limit values: Not known                                                                                                                                                              |
| <b>Other protective equipment:</b>                                       | Good hygiene and housekeeping                                                                                                                                                                                            |
| <b>Respiratory protection:</b>                                           | Required where ventilation is insufficient or exposure is prolonged                                                                                                                                                      |
| <b>Hand protection:</b>                                                  | Rubber or PVC gloves                                                                                                                                                                                                     |
| <b>Eye protection:</b>                                                   | Wear safety goggles or face shield. Ensure eyewash and showers are in the proximity to workstation location.                                                                                                             |
| <b>Other information:</b>                                                | Avoid contact with the substance or contaminated objects, Ensure regular cleaning of equipment and work area; good personal hygiene, staff training and management/ supervision are in place.                            |
| <b>4. Physical form of substance / preparation / mixture or article</b>  |                                                                                                                                                                                                                          |
| <b>Information on basic physical and chemical properties:</b>            | Solid, crystalline, acidic as a liquid                                                                                                                                                                                   |
| <b>5. Product specification</b>                                          |                                                                                                                                                                                                                          |
| <b>Physical form of the product:</b>                                     | Part of a preparation can be a liquid or solid.                                                                                                                                                                          |
| <b>Concentration of substance in preparation / mixture or article:</b>   | Users to specify                                                                                                                                                                                                         |
| <b>Service life of substances in articles:</b>                           | Users to specify                                                                                                                                                                                                         |
| <b>6. Risk Management Measures</b>                                       |                                                                                                                                                                                                                          |
| <b>Occupational exposure controls:</b>                                   | Keep area well ventilated. Precautions against dust explosion and irritation caused by dust inhalation.                                                                                                                  |
| <b>Environmental Exposure Controls:</b>                                  | Avoid dispersal of spilled material and run off and contact with soil, waterways, drains and sewers. The substance is biodegradable, has a low Kow and is not expected to bioaccumulate.                                 |
| <b>7. Consumer use:</b>                                                  | Not applicable                                                                                                                                                                                                           |
| <b>8. Waste management measures</b>                                      |                                                                                                                                                                                                                          |
| <b>Description and information on safe handling of surplus or waste:</b> | Neutralise before treatment in a sewage treatment plant. Disposal untreated waste should be in accordance with local, state or national legislation.                                                                     |
| <b>9. Exposure assessment</b>                                            |                                                                                                                                                                                                                          |
| <b>Human exposure prediction:</b>                                        |                                                                                                                                                                                                                          |
| <b>Workers:</b>                                                          | Use of PPE will to minimise handling and contact.                                                                                                                                                                        |
| <b>Consumers:</b>                                                        | Not applicable                                                                                                                                                                                                           |
| <b>Method:</b>                                                           | Not applicable                                                                                                                                                                                                           |
| <b>Exposure estimation:</b>                                              | Not known                                                                                                                                                                                                                |
| <b>Secondary Poisoning:</b>                                              | Not expected                                                                                                                                                                                                             |
| <b>Indirect exposure to humans via the environment:</b>                  | Not expected                                                                                                                                                                                                             |
| <b>10. Other information</b>                                             |                                                                                                                                                                                                                          |
| <b>Control parameters:</b>                                               | Refer to the eSDS                                                                                                                                                                                                        |
| <b>Method to check compliance:</b>                                       | Management/supervision to check that the RMMs in place are being used correctly and OCs followed. Ensure staff and workers receive adequate training with regular updates in the handling of chemicals                   |

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| <b>14. Exposure Scenario</b>                                                   |
| <b>1. Use of citric acid in treatment of metals &amp; surfaces. Industrial</b> |
| <b>2. Processes and activities covered by the exposure scenario</b>            |

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| <b>Sector of end use (SU):</b>                                          | 03. Industrial uses: Uses of substances as such or in preparations/mixtures at industrial sites                                                                                                                           |
|                                                                         | 14. Manufacture of basic metals, including alloys                                                                                                                                                                         |
|                                                                         | 15. Manufacture of fabricated metal products, except machinery and equipment                                                                                                                                              |
|                                                                         | 16. Manufacture of computer, electronic and optical products, electrical equipment                                                                                                                                        |
|                                                                         | 17. General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment                                                                                                                                 |
| <b>Chemical product category (PC):</b>                                  | 07. Base metals and alloys                                                                                                                                                                                                |
|                                                                         | 14. Metal surface treatment products, including galvanic and electroplating products                                                                                                                                      |
|                                                                         | 25. Metal working fluids                                                                                                                                                                                                  |
|                                                                         | 31. Polishes and wax blends                                                                                                                                                                                               |
|                                                                         | 35. Washing and cleaning products (including solvent based products)                                                                                                                                                      |
| <b>Process category (PROC):</b>                                         | 02. Use in closed, continuous process with occasional controlled exposure                                                                                                                                                 |
|                                                                         | 03. Use in closed batch process (synthesis or formulation)                                                                                                                                                                |
|                                                                         | 04. Use in batch and other process (synthesis) where opportunity for exposure arises                                                                                                                                      |
|                                                                         | 07. Industrial spraying                                                                                                                                                                                                   |
|                                                                         | 08a. Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities                                                                                             |
|                                                                         | 08b. Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities                                                                                                 |
|                                                                         | 09. Transfer of substance or preparation into small containers (dedicated filling line, including weighing)                                                                                                               |
|                                                                         | 10. Roller application or brushing                                                                                                                                                                                        |
|                                                                         | 13. Treatment of articles by dipping and pouring                                                                                                                                                                          |
|                                                                         | 17. Lubrication at high energy conditions and in partly open process                                                                                                                                                      |
|                                                                         | 18. Greasing at high energy conditions                                                                                                                                                                                    |
|                                                                         | 23. Open processing and transfer operations with minerals/metals at elevated temperature                                                                                                                                  |
| <b>Article Categories [AC]:</b>                                         | Not applicable                                                                                                                                                                                                            |
| <b>Environmental release category (ERC):</b>                            | 04. Industrial use of processing aids in processes and products, not becoming part of articles                                                                                                                            |
|                                                                         | 06b. Industrial use of reactive processing aids                                                                                                                                                                           |
| <b>3. Operational conditions of use</b>                                 |                                                                                                                                                                                                                           |
| <b>Control parameters:</b>                                              | Precautionary measures against electrostatic discharge to be taken. LEV and respiratory protection to be taken in areas where workers may come into contact with dust. Implement basic standards of occupational hygiene. |
| <b>Duration and frequency of use:</b>                                   | Users to specify                                                                                                                                                                                                          |
| <b>Maximum amount per time or activity:</b>                             | Users to specify                                                                                                                                                                                                          |
| <b>Other operational conditions of use:</b>                             | Avoid splashes and spills. Minimise manual handling.                                                                                                                                                                      |
| <b>Engineering control measures:</b>                                    | Local exhaust ventilation. Exposure limit values: Not known                                                                                                                                                               |
| <b>Other protective equipment:</b>                                      | Good hygiene and housekeeping                                                                                                                                                                                             |
| <b>Respiratory protection:</b>                                          | Required where ventilation is insufficient or exposure is prolonged                                                                                                                                                       |
| <b>Hand protection:</b>                                                 | Rubber or PVC gloves                                                                                                                                                                                                      |
| <b>Eye protection:</b>                                                  | Wear safety goggles or face shield. Ensure eyewash and showers are in the proximity to workstation location.                                                                                                              |
| <b>Other information:</b>                                               | Avoid contact with the substance or contaminated objects, Ensure regular cleaning of equipment and work area; good personal hygiene, staff training and management/supervision are in place.                              |
| <b>4. Physical form of substance / preparation / mixture or article</b> |                                                                                                                                                                                                                           |
| <b>Information on basic physical and chemical properties:</b>           | Solid, crystalline, acidic as a liquid                                                                                                                                                                                    |
| <b>5. Product specification</b>                                         |                                                                                                                                                                                                                           |
| <b>Physical form of the product:</b>                                    | Part of a preparation can be a liquid or solid.                                                                                                                                                                           |

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| <b>Concentration of substance in preparation / mixture or article:</b>   | Users to specify                                                                                                                                                                                       |
| <b>Service life of substances in articles:</b>                           | Users to specify                                                                                                                                                                                       |
| <b>6. Risk Management Measures</b>                                       |                                                                                                                                                                                                        |
| <b>Occupational exposure controls:</b>                                   | Keep area well ventilated. Precautions against dust explosion and irritation caused by dust inhalation.                                                                                                |
| <b>Environmental Exposure Controls:</b>                                  | Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. The substance is biodegradable, has a low Kow and is not expected to bioaccumulate.                |
| <b>7. Consumer use:</b>                                                  | Not applicable                                                                                                                                                                                         |
| <b>8. Waste management measures</b>                                      |                                                                                                                                                                                                        |
| <b>Description and information on safe handling of surplus or waste:</b> | Neutralise before treatment in a sewage treatment plant. Disposal untreated waste should be in accordance with local, state or national legislation.                                                   |
| <b>9. Exposure assessment</b>                                            |                                                                                                                                                                                                        |
| <b>Human exposure prediction:</b>                                        |                                                                                                                                                                                                        |
| <b>Workers:</b>                                                          | Short term exposure during application. Use of PPE will to minimise handling and contact.                                                                                                              |
| <b>Consumers:</b>                                                        | Not applicable                                                                                                                                                                                         |
| <b>Method:</b>                                                           | Not applicable                                                                                                                                                                                         |
| <b>Exposure estimation:</b>                                              | Not known                                                                                                                                                                                              |
| <b>Secondary Poisoning:</b>                                              | Not expected                                                                                                                                                                                           |
| <b>Indirect exposure to humans via the environment:</b>                  | Not expected                                                                                                                                                                                           |
| <b>10. Other information</b>                                             |                                                                                                                                                                                                        |
| <b>Control parameters:</b>                                               | Refer to the eSDS                                                                                                                                                                                      |
| <b>Method to check compliance:</b>                                       | Management/supervision to check that the RMMs in place are being used correctly and OCs followed. Ensure staff and workers receive adequate training with regular updates in the handling of chemicals |

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| <b>15. Exposure Scenario</b>                                                                    |                                                                                                                                         |
| <b>1. Use of citric acid agricultural applications. Industrial, professional &amp; consumer</b> |                                                                                                                                         |
| <b>2. Processes and activities covered by the exposure scenario</b>                             |                                                                                                                                         |
| <b>Sector of end use (SU):</b>                                                                  | 01. Agriculture, forestry, fishery                                                                                                      |
|                                                                                                 | 03. Industrial uses: Uses of substances as such or in preparations/mixtures at industrial sites                                         |
|                                                                                                 | 21. Consumer uses: Private households (= general public = consumers)                                                                    |
|                                                                                                 | 22. Professional uses: Public domain (administration, education, entertainment, services, craftsmen)                                    |
| <b>Chemical product category (PC):</b>                                                          | 08. Biocidal products (e.g. Disinfectants, pest control)                                                                                |
|                                                                                                 | 12. Fertilizers                                                                                                                         |
|                                                                                                 | 21. Laboratory chemicals                                                                                                                |
| <b>Process category (PROC):</b>                                                                 | 03. Use in closed batch process (synthesis or formulation)                                                                              |
|                                                                                                 | 05. Mixing or blending in batch processes for formulation of preparations/mixtures and articles (multistage and/or significant contact) |
|                                                                                                 | 08a. Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities           |
|                                                                                                 | 08b. Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities               |
|                                                                                                 | 10. Roller application or brushing                                                                                                      |
|                                                                                                 | 11. Non industrial spraying                                                                                                             |
|                                                                                                 | 14. Production of preparations/mixtures or articles by tableting, compression, extrusion, pelletisation                                 |
|                                                                                                 | 15. Use as laboratory reagent                                                                                                           |

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|                                                                          | 19. Hand-mixing with intimate contact and only PPE available                                                                                                                                                                                                                                                                                           |
| <b>Article Categories [AC]:</b>                                          | 02. Formulation of preparations/mixtures                                                                                                                                                                                                                                                                                                               |
| <b>Environmental release category (ERC):</b>                             | 04. Industrial use of processing aids in processes and products, not becoming part of articles                                                                                                                                                                                                                                                         |
|                                                                          | 8b. Wide dispersive indoor use of reactive substances in open systems                                                                                                                                                                                                                                                                                  |
|                                                                          | 8d. Wide dispersive outdoor use of processing aids in open systems                                                                                                                                                                                                                                                                                     |
| <b>3. Operational conditions of use</b>                                  |                                                                                                                                                                                                                                                                                                                                                        |
| <b>Control parameters:</b>                                               | Precautionary measures against electrostatic discharge to be taken. LEV and respiratory protection to be taken in areas where workers may come into contact with dust. Implement basic standards of occupational hygiene                                                                                                                               |
| <b>Duration and frequency of use:</b>                                    | Users to specify                                                                                                                                                                                                                                                                                                                                       |
| <b>Maximum amount per time or activity:</b>                              | Users to specify                                                                                                                                                                                                                                                                                                                                       |
| <b>Other operational conditions of use:</b>                              | Avoid splashes and spills. Minimise manual handling.                                                                                                                                                                                                                                                                                                   |
| <b>Engineering control measures:</b>                                     | Local exhaust ventilation. Exposure limit values: Not known                                                                                                                                                                                                                                                                                            |
| <b>Other protective equipment:</b>                                       | Good hygiene and housekeeping                                                                                                                                                                                                                                                                                                                          |
| <b>Respiratory protection:</b>                                           | Required where ventilation is insufficient or exposure is prolonged                                                                                                                                                                                                                                                                                    |
| <b>Hand protection:</b>                                                  | Rubber or PVC gloves                                                                                                                                                                                                                                                                                                                                   |
| <b>Eye protection:</b>                                                   | Wear safety goggles or face shield. Industrial professional - ensure eyewash and showers are in the proximity to workstation location.                                                                                                                                                                                                                 |
| <b>Other information:</b>                                                | Avoid contact with the substance or contaminated objects, Ensure regular cleaning of equipment and work area; good personal hygiene, staff training and management/supervision are in place.                                                                                                                                                           |
| <b>4. Physical form of substance / preparation / mixture or article</b>  |                                                                                                                                                                                                                                                                                                                                                        |
| <b>Information on basic physical and chemical properties:</b>            | Solid, crystalline, acidic as a liquid                                                                                                                                                                                                                                                                                                                 |
| <b>5. Product specification</b>                                          |                                                                                                                                                                                                                                                                                                                                                        |
| <b>Physical form of the product:</b>                                     | Part of a preparation can be a liquid or solid.                                                                                                                                                                                                                                                                                                        |
| <b>Concentration of substance in preparation / mixture or article:</b>   | Users to specify                                                                                                                                                                                                                                                                                                                                       |
| <b>Service life of substances in articles:</b>                           | Users to specify                                                                                                                                                                                                                                                                                                                                       |
| <b>6. Risk Management Measures</b>                                       |                                                                                                                                                                                                                                                                                                                                                        |
| <b>Occupational exposure controls:</b>                                   | Keep area well ventilated. Precautions against dust explosion and irritation caused by dust inhalation.                                                                                                                                                                                                                                                |
| <b>Environmental Exposure Controls:</b>                                  | Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. The substance is biodegradable, has a low Kow and is not expected to bioaccumulate.                                                                                                                                                                |
| <b>7. Consumer use:</b>                                                  | Good hygiene and housekeeping                                                                                                                                                                                                                                                                                                                          |
| <b>8. Waste management measures</b>                                      |                                                                                                                                                                                                                                                                                                                                                        |
| <b>Description and information on safe handling of surplus or waste:</b> | Neutralise before treatment in a sewage treatment plant. Disposal untreated waste should be in accordance with local, state or national legislation.                                                                                                                                                                                                   |
| <b>9. Exposure assessment</b>                                            |                                                                                                                                                                                                                                                                                                                                                        |
| <b>Human exposure prediction:</b>                                        |                                                                                                                                                                                                                                                                                                                                                        |
| <b>Workers:</b>                                                          | Short term exposure during application. Use of PPE will to minimise handling and contact.                                                                                                                                                                                                                                                              |
| <b>Consumers:</b>                                                        | Short term exposure during application.                                                                                                                                                                                                                                                                                                                |
| <b>Method:</b>                                                           | Not applicable                                                                                                                                                                                                                                                                                                                                         |
| <b>Exposure estimation:</b>                                              | Not known                                                                                                                                                                                                                                                                                                                                              |
| <b>Secondary Poisoning:</b>                                              | Not expected                                                                                                                                                                                                                                                                                                                                           |
| <b>Indirect exposure to humans via the environment:</b>                  | Not expected                                                                                                                                                                                                                                                                                                                                           |
| <b>10. Other information</b>                                             |                                                                                                                                                                                                                                                                                                                                                        |
| <b>Control parameters:</b>                                               | Refer to the eSDS                                                                                                                                                                                                                                                                                                                                      |
| <b>Method to check compliance:</b>                                       | Management/supervision to check that the RMMS in place are being used correctly and OCs followed. Ensure staff and workers receive adequate training with regular updates in the handling of chemicals. They must also ensure the substance is in compliance with directives and regulations concerned with the placing on the marketing of pesticidal |

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| <b>16. Exposure Scenario</b>                                               |                                                                                                                                                                                                                           |
| <b>1. Use of citric acid in medical devices. Industrial &amp; consumer</b> |                                                                                                                                                                                                                           |
| <b>2. Processes and activities covered by the exposure scenario</b>        |                                                                                                                                                                                                                           |
| <b>Sector of end use (SU):</b>                                             | 03. Industrial uses: Uses of substances as such or in preparations/mixtures at industrial sites                                                                                                                           |
|                                                                            | 20. Health services                                                                                                                                                                                                       |
|                                                                            | 22. Professional uses: Public domain (administration, education, entertainment, services, craftsmen)                                                                                                                      |
| <b>Chemical product category (PC):</b>                                     | 20 Products such as ph-regulators, flocculants, precipitants, neutralization agents                                                                                                                                       |
| <b>Process category (PROC):</b>                                            | 01. Use in closed process, no likelihood of exposure                                                                                                                                                                      |
| <b>Article Categories [AC]:</b>                                            | 07. Industrial use of sub-stances in closed systems                                                                                                                                                                       |
| <b>Environmental release category (ERC):</b>                               | 8d. Wide dispersive outdoor use of processing aids in open systems                                                                                                                                                        |
| <b>3. Operational conditions of use</b>                                    |                                                                                                                                                                                                                           |
| <b>Control parameters:</b>                                                 | Precautionary measures against electrostatic discharge to be taken. LEV and respiratory protection to be taken in areas where workers may come into contact with dust. Implement basic standards of occupational hygiene. |
| <b>Duration and frequency of use:</b>                                      | Users to specify                                                                                                                                                                                                          |
| <b>Maximum amount per time or activity:</b>                                | Users to specify                                                                                                                                                                                                          |
| <b>Other operational conditions of use:</b>                                | Avoid splashes and spills. Minimise manual handling.                                                                                                                                                                      |
| <b>Engineering control measures:</b>                                       | Local exhaust ventilation. Exposure limit values: Not known                                                                                                                                                               |
| <b>Other protective equipment:</b>                                         | Good hygiene and housekeeping                                                                                                                                                                                             |
| <b>Respiratory protection:</b>                                             | Required where ventilation is insufficient or exposure is prolonged                                                                                                                                                       |
| <b>Hand protection:</b>                                                    | Rubber or PVC gloves                                                                                                                                                                                                      |
| <b>Eye protection:</b>                                                     | Wear safety goggles or face shield. Industrial professional - ensure eyewash and showers are in the proximity to workstation location.                                                                                    |
| <b>Other information:</b>                                                  | Avoid contact with the substance or contaminated objects, Ensure regular cleaning of equipment and work area; good personal hygiene, staff training and management/supervision are in place.                              |
| <b>4. Physical form of substance / preparation / mixture or article</b>    |                                                                                                                                                                                                                           |
| <b>Information on basic physical and chemical properties:</b>              | Solid, crystalline, acidic as a liquid                                                                                                                                                                                    |
| <b>5. Product specification</b>                                            |                                                                                                                                                                                                                           |
| <b>Physical form of the product:</b>                                       | Part of a preparation can be a liquid or solid.                                                                                                                                                                           |
| <b>Concentration of substance in preparation / mixture or article:</b>     | Users to specify                                                                                                                                                                                                          |
| <b>Service life of substances in articles:</b>                             | Users to specify                                                                                                                                                                                                          |
| <b>6. Risk Management Measures</b>                                         |                                                                                                                                                                                                                           |
| <b>Occupational exposure controls:</b>                                     | Keep area well ventilated. Precautions against dust explosion and irritation caused by dust inhalation.                                                                                                                   |
| <b>Environmental Exposure Controls:</b>                                    | Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. The substance is biodegradable, has a low Kow and is not expected to bioaccumulate.                                   |
| <b>7. Consumer use:</b>                                                    | Good hygiene and housekeeping                                                                                                                                                                                             |
| <b>8. Waste management measures</b>                                        |                                                                                                                                                                                                                           |
| <b>Description and information on safe handling of surplus or waste:</b>   | Neutralise before treatment in a sewage treatment plant. Disposal untreated waste should be in accordance with local, state or national legislation.                                                                      |
| <b>9. Exposure assessment</b>                                              |                                                                                                                                                                                                                           |
| <b>Human exposure prediction:</b>                                          |                                                                                                                                                                                                                           |
| <b>Workers:</b>                                                            | Use of PPE will to minimise handling and contact.                                                                                                                                                                         |

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| <b>Consumers:</b>                                       | Good hygiene and housekeeping                                                                                                                                                                          |
| <b>Method:</b>                                          | Not applicable                                                                                                                                                                                         |
| <b>Exposure estimation:</b>                             | Not known                                                                                                                                                                                              |
| <b>Secondary Poisoning:</b>                             | Not expected                                                                                                                                                                                           |
| <b>Indirect exposure to humans via the environment:</b> | Not expected                                                                                                                                                                                           |
| <b>10. Other information</b>                            |                                                                                                                                                                                                        |
| <b>Control parameters:</b>                              | Refer to the eSDS                                                                                                                                                                                      |
| <b>Method to check compliance:</b>                      | Management/supervision to check that the RMMs in place are being used correctly and OCs followed. Ensure staff and workers receive adequate training with regular updates in the handling of chemicals |