

BEZPEČNOSTNÍ LIST

Vypracovaný v souladu s Přílohou I Nařízení Komise (EU) č. 830/2015

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verze 2

nahrazuje verzi 1

Datum vydání: 13.6.2015

Datum aktualizace: 21.2.2018

ODDÍL 1: IDENTIFIKACE LÁTKY/SMĚSI A SPOLEČNOSTI/PODNIKU

Identifikátor výrobku: Kyselina citronová monohydrát	
Identifikační čísla: CAS:5949-29-1 EC:201-069-1	
Příslušná určená použití látky nebo směsi a nedoporučená použití	
Použití: potravinářský průmysl Popis: činidlo upravující kyselost (acidulant)	
Podrobné údaje o dodavateli bezpečnostního listu	
Dodavatel: HSH Chemie s.r.o. Prokopova 7 130 00 Praha 3 odpovědná osoba: Daniela Bosáková - d.bosakova@hsh-chemie.com tel. 00420 261 223 555	
Telefonní číslo pro naléhavé situace	Klinika nemocí z povolání - Toxikologické informační středisko Na Bojišti 1, 128 08 Praha 2 Tel. : 224919293, 224915402 (nepřetržitě) Fax : 224914570

ODDÍL 2 IDENTIFIKACE NEBEZPEČNOSTI


Klasifikace látky/směsi 67/548/EHS:	
Stanovení rizika:	Xi- Dráždivý
Nejzávažnější nepříznivé fyzikálně-chemické účinky:	Žádné.
Účinky na lidské zdraví:	Dráždí oči.
Účinky na životní prostředí:	Žádné.
Jiné informace:	Žádné.
Prvky označení:	
Výstražný symbol:	--
R-věty:	R 36 Dráždí oči
S-věty:	S Žádné.
Obsahuje:	--

Klasifikace (podle nařízení 1272/2008):	
Stanovení rizika:	Eye Irrit. 2, H 319
Nejzávažnější nepříznivé fyzikálně-chemické účinky:	Žádné.
Účinky na lidské zdraví:	Způsobuje vážné podráždění očí.
Účinky na životní prostředí:	Žádné.

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Jiné informace:	Žádné.	
Prvky označení:		
Výstražný symbol:		
Signální slovo:	Varování	
Věty o nebezpečnosti:	H	319 Způsobuje vážné podráždění očí.
Pokyny pro bezpečné zacházení:	P	Prevence P280 Používejte ochranné rukavice/ochranný oděv/ochranné brýle/obličejový štít. 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.
ES číslo:	--	
Jiné informace:	Žádné.	
Další nebezpečnost		
Data nejsou k dispozici.		

ODDÍL 3: SLOŽENÍ/INFORMACE O SLOŽKÁCH

LÁTKA		
IDENTIFIKÁTORY	MOLEKULÁRNÍ HMOTNOST	CHEMICKÝ NÁZEV/VZOREC
CAS: 5949-29-1 EC:201-069-1	192,43	Kyselina citrónová monohydrát/C6-H8-O7
Další informace: Plný popis H a P vět se nachází v oddílu 16		

ODDÍL 4: POKYNY PRO PRVNÍ POMOC

Popis první pomoci	
Všeobecné pokyny:	V případě přetrvávajících nepříznivých účinků se poraďte s lékařem. Odstraňte kontaminované, nasáklé oblečení.
Při nadýchání:	Vyveďte postiženého z bezprostředního okolí. Zajistěte přísun čerstvého vzduchu.
Při styku s kůží:	Omyjte kůži okamžitě vodou a mýdlem.
Při zasažení očí:	Odtáhněte oční víčka, pečlivě omyjte oči vodou po dobu 15 minut. Vyhledejte lékařskou pomoc pokud bolest přetrvává.
Při požití:	Vypláchněte pečlivě ústa vodou. Nikdy nepodávejte nic ústy osobě v bezvědomí. Nevyvolávejte zvracení.
Nejdůležitější akutní a opožděné symptomy a účinky	
Data nejsou k dispozici.	
Pokyny týkající se okamžité lékařské pomoci a zvláštního ošetření	
Data nejsou k dispozici.	

ODDÍL 5: OPATŘENÍ PRO HAŠENÍ POŽÁRU

Vhodná hasiva:	Pěna; oxid uhličitý, hasicí prášek, vodní postřik
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Nevhodná hasiva:	Data nejsou k dispozici.
Zvláštní nebezpečnost vyplývající z látky nebo směsi	V případě požáru se může uvolňovat: oxid uhličitý (CO ₂) a oxid uhelnatý (CO).
Pokyny pro hasiče	Noste nezávislý dýchací přístroj a ochranné oblečení.
Doplňující informace:	Žádné.

ODDÍL 6: OPATŘENÍ V PŘÍPADĚ NÁHODNÉHO ÚNIKU

Opatření na ochranu osob, ochranné pomůcky a nouzové postupy	Pro nepohotovostní personál: Viz oddíl 7 a 8 – ochranná opatření. Zajistěte adekvátní odsávání. Vyhněte se formaci plynu. Odstraňte zdroje zápalu. Pro pohotovostní personál: Data nejsou k dispozici. Osobní ochranné vybavení – viz oddíl 8.
Opatření na ochranu životního prostředí	Nenechte vniknout do kanalizace, povrchové vod / podzemní vod.
Metody a materiál pro omezení úniku a pro čištění:	Sbírejte mechanicky. Při sběru zacházejte s materiálem jak je předepsáno v položce „Metody nakládání s odpady“.
Odkaz na jiné oddíly	Data nejsou k dispozici.

ODDÍL 7: ZACHÁZENÍ A SKLADOVÁNÍ

Opatření pro bezpečné zacházení	Zajistěte dobré odsávání na pracovišti (místní odvětrávání). Vyhněte se tvorbě a ukládání prachu. NEJEZTE, NEPIJTE a nekuřte během pracovní doby. Odstraňte z dosahu krmiv a pití. Umyjte si ruce před přestávkou a po skončení práce. Nevdechujte prach. Odstraňte okamžitě nasáklé a znečištěné oblečení. Tvorba prachu může vytvářet výbušné směsi se vzduchem. Odstraňte z dosahu horka nebo vznícení.
Podmínky pro bezpečné skladování látek a směsí včetně neslučitelných látek a směsí:	Udržujte kontejner těsně uzavřený a na suchém, chladném a dobře větraném místě. Chraňte před světlem. Nádoby, které byly otevřeny, musí být pečlivě uzavřeny a uchovávány ve svislé poloze, aby se zabránilo úniku. Vždy udržujte v nádobě stejný materiál jako původní. Neskladujte společně s: oxidační činidla; louhy; kovy; redukční činidla.
Specifická konečná použití:	Data nejsou k dispozici.

ODDÍL 8: OMEZOVÁNÍ EXPOZICE / OSOBNÍ OCHRANNÉ PROSTŘEDKY

Kontrolní parametry						
Limitní hodnoty expozice na pracovišti pro ČR (dle nařízení vlády č. 361/2007 Sb.)						
Číslo CAS	NÁZEV LÁTKY	PEL	NPK-P	POZNÁMKA	FAKTORY PŘEPOČTU NA PPM	
		připustné expoziční limity	nejvyšší připustné koncentrace			
mg/m ³						
Limity nejsou k dispozici						
Limitní hodnoty expozice na pracovišti pro EU (podle směrnice č. 2000/39/ ES, 2006/15/ES, 2009/161/ES)						
Číslo CAS	NÁZEV LÁTKY	KONCENTRACE ROZLOŽENA NA 8 HOD. (TWAL)		KRÁTKODOBÝ EXPOZIČNÍ LIMIT (STEL)		POZNÁMKA
		mg/m ³	ppm	mg/m ³	ppm	
Limity nejsou k dispozici.						
Biologické mezní hodnoty pro ČR (podle vyhlášky č. 432/2003 Sb.)						
Limitní hodnoty ukazatelů biologických expozičních testů v moči						
LÁTKA	UKAZATEL	LIMITNÍ HODNOTY		DOBA ODBĚRU		

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Limity nejsou k dispozici	
Omezování expozice:	
Vhodné technické kontroly:	Data nejsou k dispozici.
Individuální ochranná opatření včetně osobních ochranných prostředků	
Ochrana očí a obličeje:	Bezpečnostní brýle s bočním ochranným štítem (EN 166)
Ochrana kůže:	Běžný chemický pracovní oblek.
Ochrana rukou:	V případě intenzivního kontaktu noste ochranné rukavice (EN 374). Před použitím by měly být ochranné rukavice otestovány v každém případě pro svou specifickou hodnotu pro pracovní využití (tj. mechanická odolnost, kompatibilita výrobku a antistatické vlastnosti). Dodržujte pokyny výrobce a informace vztahující se k použití, skladování, péči a výměny ochranných rukavic. Ochranné rukavice mají být vyměněny okamžitě při fyzickém poškození nebo opotřebení. Určení odpovídá provozu, proto zamezte stálému používání ochranných rukavic.
Jiná ochrana:	---
Ochrana dýchacích cest:	Pokud jsou překročeny limity na pracovišti, musí se nosit ochrana dýchacích cest schválená pro konkrétní pracoviště. V případě formování prachu, přijměte vhodná opatření pro ochranu dýchání pokud mezní hodnoty na pracovišti nejsou specifikovány.
Tepelné nebezpečí:	Žádné.
Omezování expozice životního prostředí:	Data nejsou k dispozici.

ODDÍL 9: FYZIKÁLNÍ A CHEMICKÉ VLASTNOSTI

Informace o základních fyzikálních a chemických vlastnostech	
Vzhled:	Krystalický prášek
Barva:	Bezbarvá až bílá
Zápach:	Bez zápachu.
Prahová hodnota zápachu:	Data nejsou k dispozici.
pH:	Hodnota: 2,2 - 2,5 koncentrace: 5%
Bod tání / bod tuhnutí:	153°C
Bod varu a rozmezí bodu varu:	Neaplikovatelné.
Bod vzplanutí:	Neaplikovatelné.
Rychlost odpařování	Data nejsou k dispozici.
Hořlavost (pevné látky/plyny)	Data nejsou k dispozici.
Dolní mez hořlavosti nebo výbušnosti	Data nejsou k dispozici.
Horní mez hořlavosti nebo výbušnosti	Data nejsou k dispozici.
Tlak páry	Data nejsou k dispozici.
Povrchové napětí:	Data nejsou k dispozici
Hustota:	1,542 g/cm ³
Rozpustnost ve vodě:	Hodnota: 59,2 g/100g vody
Rozdělovací koeficient n-octanol/voda	Data nejsou k dispozici
Teplota vznícení:	Data nejsou k dispozici.

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Teplota rozkladu:	Neaplikovatelné.
Viskozita:	Data nejsou k dispozici
Výbušné vlastnosti:	Data nejsou k dispozici
Oxidační vlastnosti:	Data nejsou k dispozici
Další informace:	
Data nejsou k dispozici	

ODDÍL 10: STÁLOST A REAKTIVITA

Reaktivita:	Data nejsou k dispozici.
Chemická stabilita:	Data nejsou k dispozici
Možnost nebezpečných reakcí:	Data nejsou k dispozici
Podmínky, kterým je třeba zabránit:	Teplo.
Neslučitelné materiály:	Redukční činidla ;louhy; oxidační činidla; kovy
Nebezpečné produkty rozkladu:	Oxid uhličitý a oxid uhelnatý.
Tepelný rozklad:	Data nejsou k dispozici.

ODDÍL 11: TOXIKOLOGICKÉ INFORMACE

Informace o toxikologických účincích	
Akutní toxicita	Akutní orální toxicita: LD50 > 3000 mg/kg Druh: potkan Akutní dermální toxicita: data nejsou k dispozici. Akutní inhalační toxicita: data nejsou k dispozici.
Žíravost/dráždivost pro kůži:	Data nejsou k dispozici
Vážné poškození očí / podráždění očí:	Nedráždivý.
Senzibilizace dýchacích cest/ senzibilizace kůže:	žádný senzibilizující účinek není znám
Mutagenita v zárodečných buňkách:	Data nejsou k dispozici
Karcinogenita:	Data nejsou k dispozici
Toxicita pro reprodukci:	Data nejsou k dispozici
Stanovení teratogenity:	Data nejsou k dispozici
Toxicita pro specifické cílové orgány, jednorázová expozice:	Data nejsou k dispozici
Toxicita pro specifické cílové orgány, opakovaná expozice:	Data nejsou k dispozici
Nebezpečnost při vdechnutí:	Data nejsou k dispozici.
Další informace	Okamžité ,opožděné a chronické účinky při krátkodobé a dlouhodobé expozici: Při opakované nebo dlouhodobé expozici vysokým koncentracím prachu může způsobit podráždění dýchacích cest. Může způsobit bolesti hlavy, závratě, nevolnost, zvracení a gastrointestinální podráždění.

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ODDÍL 12: EKOLOGICKÉ INFORMACE

Toxicita	
Akutní toxicita pro ryby:	Data nejsou k dispozici.
Akutní toxicita pro vodní organismy bezobratlé:	Data nejsou k dispozici.
Akutní toxicita pro řasy:	Data nejsou k dispozici.
Akutní toxicita pro bakterie:	Data nejsou k dispozici.
Chronická toxicita pro vodní organismy bezobratlé	Data nejsou k dispozici.
Toxicita pro podzemní živočichy	Data nejsou k dispozici.
Toxicita pro suchozemské organismy:	Data nejsou k dispozici.
Toxicita pro ostatní organismy:	Data nejsou k dispozici.
Persistence a degradabilita	
Biodegradabilita:	Vývoj: snadno rozložitelný
Fotodegradabilita	
Bioakumulační potenciál	
Bioakumulace:	Data nejsou k dispozici.
Mobilita v půdě	
Rozdělovací koeficient n-octanol/voda	Data nejsou k dispozici.
Distribuce do složek životního prostředí	Data nejsou k dispozici.
Rozpad a chování v životním prostředí	Data nejsou k dispozici.
Výsledky posouzení PBT vPvB	
Data nejsou k dispozici.	
Jiné nepříznivé účinky: Nenechávejte produkt nekontrolovatelně proniknout do životního prostředí.	

ODDÍL 13 METODY NAKLÁDÁNÍ S ODPADY

Metody nakládání s odpady:			
Odpad z produktu předejte v souladu se Zákonem č. 185/2001 SB., o odpadech oprávněné osobě; odpadní produkt ukládejte v původních, nebo náhradních, ale dobře uzavíratelných nádobách; znečištěné obaly ukládejte do stanoveného shromažďovacího prostředku a předejte oprávněné osobě; stejně postupujte při nakládání s případnými sorpčními materiály; vedte průběžnou evidenci vznikajících odpadů; odpady zařazujte v souladu s Vyhláškou MŽP č. 381/2001 Sb. následujícím způsobem:			
Klasifikace odpadů			
Katalog odpadů (Vyhláška MŽP č. 381/2001 Sb)			
Odpad	Kód odpadu	Název odpadu	Kategorie
<i>produkt</i>	16 03 05	Organické odpady obsahující nebezpečné látky	N
<i>obal</i>	15 01 10	Obaly obsahující zbytky nebezpečných látek nebo obaly těmito látkami znečištěné	N
<i>sorbent</i>	15 02 02	Absorpční činidla, filtrační materiály (včetně olejových filtrů jinak blíže neurčených, čisticí tkaniny a ochranné oděvy znečištěné nebezpečnými látkami)	N
Evropský katalog odpadů (2000/532/EC):			
Dodatečné informace:			
Znečištěné obaly -			

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ODDÍL 14 INFORMACE PRO PŘEPRAVU

Klasifikace pro silniční a železniční přepravu (ADR/ RID)	Příslušný OSN název pro zásilku: Číslo OSN: Není regulováno Třída nebezpečnosti pro přepravu: Obalová skupina:
Klasifikace pro námořní přepravu (IMDG / GGVSee):	Příslušný OSN název pro zásilku: Číslo OSN: Není regulováno Třída nebezpečnosti pro přepravu: Obalová skupina: Identifikace nebezpečnosti: Hlášené množství:
Klasifikace pro leteckou přepravu (ICAO/ IATA):	Příslušný OSN název pro zásilku: Číslo OSN: Není regulováno Třída nebezpečnosti pro přepravu: Obalová skupina: Identifikace nebezpečnosti: Hlášené množství:
Nebezpečnost pro životní prostředí	
Žádné.	
Zvláštní bezpečnostní opatření pro uživatele	
Žádné.	
Hromadná přeprava podle přílohy I MARPOL 73/78 a přepisu IBC	
Nerelevantní.	

ODDÍL 15: INFORMACE O PŘEDPISECH

Nařízení týkající se bezpečnosti, zdraví a životního prostředí/ specifické právní předpisy týkající se látky nebo směsi <i>Zdravotnické a bezpečnostní předpisy:</i> <ul style="list-style-type: none"> - zákon č. 20/1966 Sb., o péči o zdraví lidu, v platném znění - zákon č. 258/2000 Sb., o ochraně veřejného zdraví - zákon č. 262/2006 Sb., zákoník práce - zákon č. 309/2006 Sb., kterým se upravují další požadavky bezpečnosti a ochrany zdraví při práci v pracovněprávních vztazích a o zajištění bezpečnosti a ochrany zdraví při činnosti nebo poskytování služeb mimo pracovněprávní vztahy (zákon o zajištění dalších podmínek bezpečnosti a ochrany zdraví při práci) - nařízení vlády č. 361/2007 Sb., kterým se stanoví podmínky ochrany zdraví při práci - nařízení vlády č. 495/2001 Sb., kterým se stanoví rozsah a bližší podmínky poskytování osobních ochranných pracovních prostředků, mycích, čisticích a dezinfekčních prostředků - nařízení vlády č. 21/2003 Sb., kterým se stanoví technické požadavky na osobní ochranné prostředky - nařízení vlády č. 101/2005 Sb., o podrobnějších požadavcích na pracoviště a pracovní prostředí. - 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 <i>Předpisy pro ochranu životního prostředí</i> <ul style="list-style-type: none"> - zákon č. 185/2001 Sb., o odpadech, a prováděcí předpisy - zákon č. 477/2001 Sb., o obalech - zákon č. 254/2001 Sb., vodní zákon, a prováděcí předpisy
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- zákon č. 86/2002 Sb., o ochraně ovzduší

Požární předpisy

- zákon č. 133/1985 Sb., o požární ochraně

vyhláška č. 246/2001 Sb., o stanovení podmínek požární bezpečnosti a výkonu státního požárního dozoru (vyhláška o požární prevenci)

Posouzení chemické bezpečnosti

Data nejsou k dispozici.

Další informace:

EU. EINECS (EINECS): Tento produkt vyhovuje veškerým podmínkám stanoveným Evropským seznamem existujících obchodovaných chemických látek (EINECS).

US. Toxic Substances Control Act (TSCA): Všechny složky tohoto produktu jsou v souladu se seznamem požadavků U.S. Zákona o kontrole chemických látek (TSCA).

ODDÍL 16: DALŠÍ INFORMACE

Použité zkratky	
Zdroje dat	Bezpečnostní list byl vystaven na základě listu výrobce 6.8.2013 a aktualizován s nejnovějšími předpisy. Údaje v tomto bezpečnostním listu odpovídají našemu současnému stavu poznání a vyhovují jak zákonům národním, tak i zákonům Evropské unie. Udávané podmínky zpracování jsou odvozeny od našich znalostí pracovišť a jejich možné kontroly. Výrobek se bez písemného souhlasu výrobce nesmí používat pro jiné účely, než je uvedeno v technické dokumentaci. Uživatel zodpovídá za dodržování všech potřebných zákonných nařízení. Údaje uvedené v tomto bezpečnostním listu popisují požadavky na dodržování bezpečnosti práce při manipulaci a zpracovávání našeho výrobku, ale nepředstavují žádné zabezpečení kvalitativních vlastností výrobku.
Plné znění všech vět o nebezpečnosti a pokynů pro bezpečné zacházení	R 36 H 319 Dráždí oči. Způsobuje vážné podráždění očí.
Pokyny pro školení:	Osoby, které nakládají s výrobkem, musí být prokazatelně seznámeny s jeho nebezpečnými vlastnostmi, zásadami ochrany zdraví, životního prostředí před jeho škodlivými účinky a zásadami první předlékařské pomoci (zákon č. 258/2000 Sb., v platném znění).
Přístup k informacím:	Každý zaměstnavatel musí podle článku 35 nařízení Evropského parlamentu a Rady (ES) č.1907/2006 umožnit přístup k informacím z bezpečnostního listu všem pracovníkům, kteří tento produkt používají nebo jsou během své práce vystaveni jeho účinkům, a rovněž zástupcům těchto pracovníků.

Annexes

Exposure scenarios and Use Descriptors

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1. Exposure Scenario	
Use of citric acid as an intermediate. Industrial	
2. Processes and activities covered by the exposure scenario	
Sector of end use (SU):	03. Industrial uses: Uses of substances as such or in preparations/mixtures industrial sites 09. Manufacture of fine chemicals
Chemical product category (PC):	19. Intermediate
Process category (PROC):	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
Article Categories [AC]:	Not applicable
Environmental release category (ERC):	06a. Industrial use resulting in manufacture of another substance (use of intermediates)
3. Operational conditions of use	
Control parameters:	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
Duration and frequency of use:	Users to specify
Maximum amount per time or activity:	Users to specify
Other operational conditions of use:	Avoid splashes and spills. Minimise manual handling.
Engineering control measures:	Local exhaust ventilation. Exposure limit values: Not known
Other protective equipment:	Good hygiene and housekeeping
Respiratory protection:	Required where ventilation is insufficient or exposure is prolonged
Hand protection:	Rubber or PVC gloves
Eye protection:	Wear safety goggles or face shield. Ensure eyewash and showers are in the proximity to

	workstation location.
Other information:	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.
4. Physical form of substance / preparation / mixture or article	
Information on basic physical and chemical properties:	Solid, crystalline, acidic as a liquid
5. Product specification	
Physical form of the product:	Not applicable
Concentration of substance in preparation / mixture or article:	Users to specify
Service life of substances in articles:	Users to specify
6. Risk Management Measures	
Occupational exposure controls:	Keep area well ventilated. Precautions against dust explosion and irritation caused by dust inhalation.
Environmental Exposure Controls:	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.
7. Consumer use:	Not applicable
8. Waste management measures	
Description and information on safe handling of surplus or waste:	Neutralise before treatment in a sewage treatment plant. Disposal untreated waste should be in accordance with local, state or national legislation.
9. Exposure assessment	
Human exposure prediction:	
Workers:	Use of PPE will to minimise handling and contact.
Consumers:	Not applicable
Method:	Not known
Exposure estimation:	Not known
Secondary Poisoning:	Not expected
Indirect exposure to humans via the environment:	Not expected
10. Other information	
Control parameters:	Refer to the eSDS
Method to check compliance:	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

2. Exposure Scenario	
Use of citric acid formulation into preparations/mixtures –industrial	
2. Processes and activities covered by the exposure scenario	
Sector of end use (SU):	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
Chemical product category (PC):	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

Process category (PROC):	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
Article Categories [AC]:	Not applicable
Environmental release category (ERC):	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
3. Operational conditions of use	
Control parameters:	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
Duration and frequency of use:	Users to specify
Maximum amount per time or activity:	Users to specify
Other operational conditions of use:	Avoid splashes and spills. Minimise manual handling.
Engineering control measures:	Local exhaust ventilation. Exposure limit values: Not known
Other protective equipment:	Good hygiene and housekeeping
Respiratory protection:	Required where ventilation is insufficient or exposure is prolonged
Hand protection:	Rubber or PVC gloves
Eye protection:	Wear safety goggles or face shield. Industrial professional - ensure eyewash and showers are in the proximity to workstation location.
Other information:	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.
4. Physical form of substance / preparation / mixture or article	
Information on basic physical and chemical properties:	Solid, crystalline, acidic as a liquid
5. Product specification	
Physical form of the product:	Part of a preparation can be a liquid or solid.
Concentration of substance in preparation / mixture or article:	Users to specify
Service life of substances in articles:	Users to specify
6. Risk Management Measures	
Occupational exposure controls:	Keep area well ventilated. Precautions against dust explosion and irritation caused by dust inhalation.
Environmental Exposure Controls:	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.

7. Consumer use:	Not applicable
8. Waste management measures	
Description and information on safe handling of surplus or waste:	Neutralise before treatment in a sewage treatment plant. Disposal untreated waste should be in accordance with local, state or national legislation.
9. Exposure assessment	
Human exposure prediction:	
Workers:	Use of PPE will to minimise handling and contact.
Consumers:	Not applicable
Method:	Not applicable
Exposure estimation:	Not known
Secondary Poisoning:	Not expected
Indirect exposure to humans via the environment:	Not expected
10. Other information	
Control parameters:	Refer to the eSDS
Method to check compliance:	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

3. Exposure Scenario	
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	
2. Processes and activities covered by the exposure scenario	
Sector of end use (SU):	20. Health services
	21. Consumer uses: Private households (= general public = consumers)
	22. Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Chemical product category (PC):	02. Adsorbents
	03. Air care products
Process category (PROC):	10. Roller application or brushing
	11. Non industrial spraying
	19. Hand-mixing with intimate contact and only PPE available
Article Categories [AC]:	08. Paper articles
Environmental release category (ERC):	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
3. Operational conditions of use	
Control parameters:	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
Duration and frequency of use:	Users to specify
Maximum amount per time or activity:	Users to specify
Other operational conditions of use:	Avoid splashes and spills.
Engineering control measures:	Keep area well ventilated. Exposure limit values: Not known
Other protective equipment:	Good hygiene and housekeeping
Respiratory protection:	Required where ventilation is insufficient or exposure is prolonged
Hand protection:	Rubber or PVC gloves
Eye protection:	Wear safety goggles or face shield. Industrial & professional - ensure eyewash and showers are in the proximity to workstation location.
Other information:	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.
4. Physical form of substance / preparation / mixture or article	
Information on basic physical and chemical properties:	Solid, crystalline, acidic as a liquid

5. Product specification	
Physical form of the product:	Part of a preparation can be a liquid or solid.
Concentration of substance in preparation / mixture or article:	Users to specify
Service life of substances in articles:	Users to specify
6. Risk Management Measures	
Occupational exposure controls:	Keep area well ventilated
Environmental Exposure Controls:	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.
7. Consumer use:	Good hygiene and housekeeping
8. Waste management measures	
Description and information on safe handling of surplus or waste:	Neutralise before treatment in a sewage treatment plant. Disposal untreated waste should be in accordance with local, state or national legislation.
9. Exposure assessment	
Human exposure prediction:	
Workers:	Long term exposure during application. Use of PPE will to minimise handling and contact.
Consumers:	Long term exposure to low concentrations during application/use.
Method:	Not applicable
Exposure estimation:	Not known
Secondary Poisoning:	Not expected
Indirect exposure to humans via the environment:	Not expected
10. Other information	
Control parameters:	Refer to the eSDS
Method to check compliance:	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

4. Exposure Scenario	
Use of citric acid in detergents and cleaning products. Industrial, professional and consumer users	
2. Processes and activities covered by the exposure scenario	
Sector of end use (SU):	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)
Chemical product category (PC):	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
Process category (PROC):	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)

	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
Article Categories [AC]:	08. Paper articles
Environmental release category (ERC):	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
3. Operational conditions of use	
Control parameters:	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
Duration and frequency of use:	Users to specify
Maximum amount per time or activity:	Users to specify
Other operational conditions of use:	Avoid splashes and spills.
Engineering control measures:	Keep area well ventilated. Exposure limit values: Not known
Other protective equipment:	Good hygiene and housekeeping
Respiratory protection:	Required where ventilation is insufficient or exposure is prolonged
Hand protection:	Rubber or PVC gloves
Eye protection:	Wear safety goggles or face shield. Industrial professional - ensure eyewash and showers are in the proximity to workstation location.
Other information:	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.
4. Physical form of substance / preparation / mixture or article	
Information on basic physical and chemical properties:	Solid, crystalline, acidic as a liquid
5. Product specification	
Physical form of the product:	Part of a preparation can be a liquid or solid.
Concentration of substance in preparation / mixture or article:	Formulators information
Service life of substances in articles:	In use 2 to 12 months
6. Risk Management Measures	
Occupational exposure controls:	Keep area well ventilated
Environmental Exposure Controls:	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.
7. Consumer use:	Good hygiene and housekeeping
8. Waste management measures	
Description and information on safe handling of surplus or waste:	Neutralise before treatment in a sewage treatment plant. Disposal untreated waste should be in accordance with local, state or national legislation.
9. Exposure assessment	
Human exposure prediction:	
Workers:	Short term during formulation. Long term exposure during application. Use of PPE will to minimise handling and contact.
Consumers:	Long term exposure to low concentrations during application/use
Method:	Not applicable
Exposure estimation:	Not known
Secondary Poisoning:	Not expected
Indirect exposure to humans via the environment:	Not expected
10. Other information	
Control parameters:	Refer to the eSDS

Method to check compliance:	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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5. Exposure Scenario	
Use of citric acid in paper industry. Industrial	
2. Processes and activities covered by the exposure scenario	
Sector of end use (SU):	03. Industrial uses: Uses of substances as such or in preparations/mixtures industrial sites 06a. Manufacture of pulp, paper and paper products
Chemical product category (PC):	26. Paper and board dye, finishing and impregnation products: including bleaches and other processing aids
Process category (PROC):	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.
Article Categories [AC]:	Not applicable
Environmental release category (ERC):	04. Industrial use of processing aids in processes and products, not becoming part of articles
3. Operational conditions of use	
Control parameters:	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
Duration and frequency of use:	Users to specify
Maximum amount per time or activity:	Users to specify
Other operational conditions of use:	Avoid splashes and spills.
Engineering control measures:	Keep area well ventilated. Exposure limit values: Not known
Other protective equipment:	Good hygiene and housekeeping
Respiratory protection:	Required where ventilation is insufficient or exposure is prolonged
Hand protection:	Rubber or PVC gloves
Eye protection:	Wear safety goggles or face shield. Ensure eyewash and showers are in the proximity to workstation location.
Other information:	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.
4. Physical form of substance / preparation / mixture or article	
Information on basic physical and chemical properties:	Solid, crystalline, acidic as a liquid
5. Product specification	
Physical form of the product:	Part of a preparation can be a liquid or solid.
Concentration of substance in preparation / mixture or article:	Users to specify
Service life of substances in articles:	Users to specify
6. Risk Management Measures	
Occupational exposure controls:	Keep area well ventilated.
Environmental Exposure Controls:	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.
7. Consumer use:	Not applicable
8. Waste management measures	
Description and information on safe handling of surplus or waste:	Neutralise before treatment in a sewage treatment plant. Disposal untreated waste should be in accordance with local, state or national legislation.
9. Exposure assessment	
Human exposure prediction:	
Workers:	Long term exposure during application. Use of PPE will to minimise handling and contact.
Consumers:	Not applicable
Method:	Not applicable
Exposure estimation:	Not known
Secondary Poisoning:	Not expected

Indirect exposure to humans via the environment:	Not expected
10. Other information	
Control parameters:	Refer to the eSDS
Method to check compliance:	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

6. Exposure Scenario	
Use of citric acid in construction products. Industrial, professional and consumer	
2. Processes and activities covered by the exposure scenario	
Sector of end use (SU):	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)
Chemical product category (PC):	0. Other
Process category (PROC):	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
Article Categories [AC]:	04. Stone, plaster, cement, glass and ceramic articles
Environmental release category (ERC):	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)
3. Operational conditions of use	
Control parameters:	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
Duration and frequency of use:	Users to specify
Maximum amount per time or activity:	Users to specify

Other operational conditions of use:	Avoid splashes and spills.
Engineering control measures:	Keep area well ventilated. Exposure limit values: Not known
Other protective equipment:	Good hygiene and housekeeping
Respiratory protection:	Required where ventilation is insufficient or exposure is prolonged
Hand protection:	Rubber or PVC gloves
Eye protection:	Wear safety goggles or face shield. Industrial/professional, ensure eyewash and showers are in the proximity to workstation location.
Other information:	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.
4. Physical form of substance / preparation / mixture or article	
Information on basic physical and chemical properties:	Solid, crystalline, acidic as a liquid
5. Product specification	
Physical form of the product:	Part of a preparation can be a liquid or solid.
Concentration of substance in preparation / mixture or article:	Users to specify
Service life of substances in articles:	Users to specify
6. Risk Management Measures	
Occupational exposure controls:	Keep area well ventilated
Environmental Exposure Controls:	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.
7. Consumer use:	Good hygiene and housekeeping
8. Waste management measures	
Description and information on safe handling of surplus or waste:	Neutralise before treatment in a sewage treatment plant. Disposal untreated waste should be in accordance with local, state or national legislation.
9. Exposure assessment	
Human exposure prediction:	
Workers:	Long term exposure during application.
Consumers:	Long term exposure to low concentrations during application/use.
Method:	Not applicable
Exposure estimation:	Not known
Secondary Poisoning:	Not expected
Indirect exposure to humans via the environment:	Not expected
10. Other information	
Control parameters:	Refer to the eSDS
Method to check compliance:	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

7. Exposure Scenario	
Use of citric acid Polymers and plastics. Industrial	
2. Processes and activities covered by the exposure scenario	
Sector of end use (SU):	03. Industrial uses: Uses of substances as such or in preparations/mixtures at industrial sites
Chemical product category (PC):	32. Polymer preparations and compounds
Process category (PROC):	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
Article Categories [AC]:	Not applicable
Environmental release category (ERC):	06b. Industrial use of reactive processing aids

3. Operational conditions of use	
Control parameters:	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
Duration and frequency of use:	Users to specify
Maximum amount per time or activity:	Users to specify
Other operational conditions of use:	Avoid splashes and spills. Minimise manual handling.
Engineering control measures:	Local exhaust ventilation. Exposure limit values: Not known
Other protective equipment:	Good hygiene and housekeeping
Respiratory protection:	Required where ventilation is insufficient or exposure is prolonged
Hand protection:	Rubber or PVC gloves
Eye protection:	Wear safety goggles or face shield. Industrial professional - ensure eyewash and showers are in the proximity to workstation location.
Other information:	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.
4. Physical form of substance / preparation / mixture or article	
Information on basic physical and chemical properties:	Solid, crystalline, acidic as a liquid
5. Product specification	
Physical form of the product:	Part of a preparation can be a liquid or solid.
Concentration of substance in preparation / mixture or article:	Users to specify
Service life of substances in articles:	Users to specify
6. Risk Management Measures	
Occupational exposure controls:	Keep area well ventilated. Precautions against dust explosion and irritation caused by dust inhalation.
Environmental Exposure Controls:	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.
7. Consumer use:	Not applicable
8. Waste management measures	
Description and information on safe handling of surplus or waste:	Neutralise before treatment in a sewage treatment plant. Disposal untreated waste should be in accordance with local, state or national legislation.
9. Exposure assessment	
Human exposure prediction:	
Workers:	Long term exposure during application. Use of PPE will to minimise handling and contact.
Consumers:	Not applicable
Method:	Not applicable
Exposure estimation:	Not known
Secondary Poisoning:	Not expected
Indirect exposure to humans via the environment:	Not expected
10. Other information	
Control parameters:	Refer to the eSDS
Method to check compliance:	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

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

	40. Other
Process category (PROC):	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
Article Categories [AC]:	Not applicable
Environmental release category (ERC):	8d. Wide dispersive outdoor use of processing aids in open systems
3. Operational conditions of use	
Control parameters:	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
Duration and frequency of use:	Users to specify
Maximum amount per time or activity:	Users to specify
Other operational conditions of use:	Avoid splashes and spills.
Engineering control measures:	Keep area well ventilated. Exposure limit values: Not known
Other protective equipment:	Good hygiene and housekeeping
Respiratory protection:	Required where ventilation is insufficient or exposure is prolonged
Hand protection:	Rubber or PVC gloves
Eye protection:	Wear safety goggles or face shield. Industrial/professional, ensure eyewash and showers are in the proximity to workstation location.
Other information:	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
4. Physical form of substance / preparation / mixture or article	
Information on basic physical and chemical properties:	Solid, crystalline, acidic as a liquid
5. Product specification	
Physical form of the product:	Part of a preparation can be a liquid or solid.
Concentration of substance in preparation / mixture or article:	Users to specify
Service life of substances in articles:	Users to specify
6. Risk Management Measures	
Occupational exposure controls:	Keep area well ventilated
Environmental Exposure Controls:	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.
7. Consumer use:	Not applicable
8. Waste management measures	
Description and information on safe handling of surplus or waste:	Neutralise before treatment in a sewage treatment plant. Disposal untreated waste should be in accordance with local, state or national legislation.
9. Exposure assessment	
Human exposure prediction:	
Workers:	Long term exposure during application. Use of PPE will to minimise handling and contact.
Consumers:	Not applicable
Method:	Not applicable
Exposure estimation:	Not known
Secondary Poisoning:	Not expected
Indirect exposure to humans via the environment:	Not expected
10. Other information	
Control parameters:	Refer to the eSDS
Method to check compliance:	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
9. Exposure Scenario	
Use of citric acid in paints and coatings. Industrial, professional and consumer users	
2. Processes and activities covered by the exposure scenario	
Sector of end use (SU):	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)
Chemical product category (PC):	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
Process category (PROC):	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
Article Categories [AC]:	04. Stone, plaster, cement, glass and ceramic articles
	11. Wood articles
Environmental release category (ERC):	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)
3. Operational conditions of use	
Control parameters:	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
Duration and frequency of use:	Users to specify
Maximum amount per time or activity:	Users to specify
Other operational conditions of use:	Avoid splashes and spills.
Engineering control measures:	Keep area well ventilated. Exposure limit values: Not known
Other protective equipment:	Good hygiene and housekeeping
Respiratory protection:	Required where ventilation is insufficient or exposure is prolonged
Hand protection:	Rubber or PVC gloves
Eye protection:	Wear safety goggles or face shield. Industrial professional - ensure eyewash and showers are in the proximity to workstation location.
Other information:	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.
4. Physical form of substance / preparation / mixture or article	
Information on basic physical and chemical properties:	Solid, crystalline, acidic as a liquid
5. Product specification	

Physical form of the product:	Part of a preparation can be a liquid or solid.
Concentration of substance in preparation / mixture or article:	Formulators information
Service life of substances in articles:	
6. Risk Management Measures	
Occupational exposure controls:	Keep area well ventilated
Environmental Exposure Controls:	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.
7. Consumer use:	Good hygiene and housekeeping
8. Waste management measures	
Description and information on safe handling of surplus or waste:	Neutralise before treatment in a sewage treatment plant. Disposal untreated waste should be in accordance with local, state or national legislation.
9. Exposure assessment	
Human exposure prediction:	
Workers:	Short term during formulation. Long term exposure during application. Use of PPE will to minimise handling and contact.
Consumers:	Exposure to low concentrations during application/use
Method:	Not applicable
Exposure estimation:	Not known
Secondary Poisoning:	Not expected
Indirect exposure to humans via the environment:	Not expected
10. Other information	
Control parameters:	Refer to the eSDS
Method to check compliance:	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

10. Exposure Scenario	
Use of citric acid in photography products. Professional and consumer users	
2. Processes and activities covered by the exposure scenario	
Sector of end use (SU):	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)
Chemical product category (PC):	30. Photo-chemicals
Process category (PROC):	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
Article Categories [AC]:	Not applicable
Environmental release category (ERC):	08a Wide dispersive indoor use of processing aids in open systems
3. Operational conditions of use	
Control parameters:	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
Duration and frequency of use:	Users to specify
Maximum amount per time or activity:	Users to specify
Other operational conditions of use:	Avoid splashes and spills.
Engineering control measures:	Keep area well ventilated. Exposure limit values: Not known
Other protective equipment:	Good hygiene and housekeeping
Respiratory protection:	Required where ventilation is insufficient or exposure is prolonged
Hand protection:	Rubber or PVC gloves

Eye protection:	Wear safety goggles or face shield. Professional - ensure eyewash and showers are in the proximity to workstation location.
Other information:	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.
4. Physical form of substance / preparation / mixture or article	
Information on basic physical and chemical properties:	Solid, crystalline, acidic as a liquid
5. Product specification	
Physical form of the product:	Part of a preparation can be a liquid or solid.
Concentration of substance in preparation / mixture or article:	Formulators information
Service life of substances in articles:	
6. Risk Management Measures	
Occupational exposure controls:	Keep area well ventilated
Environmental Exposure Controls:	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.
7. Consumer use:	Good hygiene and housekeeping
8. Waste management measures	
Description and information on safe handling of surplus or waste:	Neutralise before treatment in a sewage treatment plant. Disposal untreated waste should be in accordance with local, state or national legislation.
9. Exposure assessment	
Human exposure prediction:	
Workers:	Short term during formulation. Long term exposure during application
Consumers:	Exposure to low concentrations during application/use
Method:	Not applicable
Exposure estimation:	Not known
Secondary Poisoning:	Not expected
Indirect exposure to humans via the environment:	Not expected
10. Other information	
Control parameters:	Refer to the eSDS
Method to check compliance:	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

11. Exposure Scenario	
Use of citric acid in textiles. Industrial	
2. Processes and activities covered by the exposure scenario	
Sector of end use (SU):	03. Industrial uses: Uses of substances as such or in preparations/mixtures industrial sites 05. Manufacture of textiles, leather, fur
Chemical product category (PC):	20. Products such as ph-regulators, flocculants, precipitants, neutralization agents 23. Leather tanning, dye, finishing, impregnation and care products 24. Lubricants, greases, release products
Process category (PROC):	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
Article Categories [AC]:	05. Fabrics, textiles and apparel 06. Leather articles

Environmental release category (ERC):	04. Industrial use of processing aids in processes and products, not becoming part of articles
3. Operational conditions of use	
Control parameters:	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
Duration and frequency of use:	Users to specify
Maximum amount per time or activity:	Users to specify
Other operational conditions of use:	Avoid splashes and spills.
Engineering control measures:	Keep area well ventilated. Exposure limit values: Not known
Other protective equipment:	Good hygiene and housekeeping
Respiratory protection:	Required where ventilation is insufficient or exposure is prolonged
Hand protection:	Rubber or PVC gloves
Eye protection:	Wear safety goggles or face shield. Ensure eyewash and showers are in the proximity to workstation location.
Other information:	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.
4. Physical form of substance / preparation / mixture or article	
Information on basic physical and chemical properties:	Solid, crystalline, acidic as a liquid
5. Product specification	
Physical form of the product:	Part of a preparation can be a liquid or solid.
Concentration of substance in preparation / mixture or article:	Users to specify
Service life of substances in articles:	Users to specify
6. Risk Management Measures	
Occupational exposure controls:	Keep area well ventilated
Environmental Exposure Controls:	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.
7. Consumer use:	Not applicable
8. Waste management measures	
Description and information on safe handling of surplus or waste:	Neutralise before treatment in a sewage treatment plant. Disposal untreated waste should be in accordance with local, state or national legislation.
9. Exposure assessment	
Human exposure prediction:	
Workers:	Long term exposure during application. Use of PPE will to minimise handling and contact.
Consumers:	Not applicable
Method:	Not applicable
Exposure estimation:	Not known
Secondary Poisoning:	Not expected
Indirect exposure to humans via the environment:	Not expected
10. Other information	
Control parameters:	Refer to the Esds
Method to check compliance:	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

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

Sector of end use (SU):	03. Industrial uses: Uses of substances as such or in preparations/mixtures at industrial sites
Chemical product category (PC):	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
Process category (PROC):	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
Article Categories [AC]:	Not applicable
Environmental release category (ERC):	04. Industrial use of processing aids in processes and products, not becoming part of articles
	07. Industrial use of sub-stances in closed systems
3. Operational conditions of use	
Control parameters:	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
Duration and frequency of use:	Users to specify
Maximum amount per time or activity:	Users to specify
Other operational conditions of use:	Avoid splashes and spills.
Engineering control measures:	Keep area well ventilated. Exposure limit values: Not known
Other protective equipment:	Good hygiene and housekeeping
Respiratory protection:	Required where ventilation is insufficient or exposure is prolonged
Hand protection:	Rubber or PVC gloves
Eye protection:	Wear safety goggles or face shield. Ensure eyewash and showers are in the proximity to workstation location.
Other information:	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.
4. Physical form of substance / preparation / mixture or article	
Information on basic physical and chemical properties:	Solid, crystalline, acidic as a liquid
5. Product specification	
Physical form of the product:	Part of a preparation can be a liquid or solid.
Concentration of substance in preparation / mixture or article:	Formulators information
Service life of substances in articles:	
6. Risk Management Measures	
Occupational exposure controls:	Keep area well ventilated
Environmental Exposure Controls:	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.
7. Consumer use:	Not applicable
8. Waste management measures	
Description and information on safe handling of surplus or waste:	Neutralise before treatment in a sewage treatment plant. Disposal untreated waste should be in accordance with local, state or national legislation.
9. Exposure assessment	
Human exposure prediction:	
Workers:	Short term during formulation. Long term exposure during application. Use of PPE will to minimise handling and contact.
Consumers:	Not applicable
Method:	Not applicable
Exposure estimation:	Not known

Secondary Poisoning:	Not expected
Indirect exposure to humans via the environment:	Not expected
10. Other information	
Control parameters:	Refer to the eSDS
Method to check compliance:	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

13. Exposure Scenario	
Use of citric acid in water treatment. Industrial	
2. Processes and activities covered by the exposure scenario	
Sector of end use (SU):	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
Chemical product category (PC):	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
Process category (PROC):	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
Article Categories [AC]:	Not applicable
Environmental release category (ERC):	04. Industrial use of processing aids in processes and products, not becoming part of articles

	07. Industrial use of sub-stances in closed systems
3. Operational conditions of use	
Control parameters:	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
Duration and frequency of use:	Users to specify
Maximum amount per time or activity:	Users to specify
Other operational conditions of use:	Avoid splashes and spills. Minimise manual handling.
Engineering control measures:	Local exhaust ventilation. Exposure limit values: Not known
Other protective equipment:	Good hygiene and housekeeping
Respiratory protection:	Required where ventilation is insufficient or exposure is prolonged
Hand protection:	Rubber or PVC gloves
Eye protection:	Wear safety goggles or face shield. Ensure eyewash and showers are in the proximity to workstation location.
Other information:	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.
4. Physical form of substance / preparation / mixture or article	
Information on basic physical and chemical properties:	Solid, crystalline, acidic as a liquid
5. Product specification	
Physical form of the product:	Part of a preparation can be a liquid or solid.
Concentration of substance in preparation / mixture or article:	Users to specify
Service life of substances in articles:	Users to specify
6. Risk Management Measures	
Occupational exposure controls:	Keep area well ventilated. Precautions against dust explosion and irritation caused by dust inhalation.
Environmental Exposure Controls:	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.
7. Consumer use:	Not applicable
8. Waste management measures	
Description and information on safe handling of surplus or waste:	Neutralise before treatment in a sewage treatment plant. Disposal untreated waste should be in accordance with local, state or national legislation.
9. Exposure assessment	
Human exposure prediction:	
Workers:	Use of PPE will to minimise handling and contact.
Consumers:	Not applicable
Method:	Not applicable
Exposure estimation:	Not known
Secondary Poisoning:	Not expected
Indirect exposure to humans via the environment:	Not expected
10. Other information	
Control parameters:	Refer to the eSDS
Method to check compliance:	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

14. Exposure Scenario
1. Use of citric acid in treatment of metals & surfaces. Industrial
2. Processes and activities covered by the exposure scenario

Sector of end use (SU):	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
Chemical product category (PC):	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)
Process category (PROC):	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
Article Categories [AC]:	Not applicable
Environmental release category (ERC):	04. Industrial use of processing aids in processes and products, not becoming part of articles
	06b. Industrial use of reactive processing aids
3. Operational conditions of use	
Control parameters:	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.
Duration and frequency of use:	Users to specify
Maximum amount per time or activity:	Users to specify
Other operational conditions of use:	Avoid splashes and spills. Minimise manual handling.
Engineering control measures:	Local exhaust ventilation. Exposure limit values: Not known
Other protective equipment:	Good hygiene and housekeeping
Respiratory protection:	Required where ventilation is insufficient or exposure is prolonged
Hand protection:	Rubber or PVC gloves
Eye protection:	Wear safety goggles or face shield. Ensure eyewash and showers are in the proximity to workstation location.
Other information:	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.
4. Physical form of substance / preparation / mixture or article	
Information on basic physical and chemical properties:	Solid, crystalline, acidic as a liquid
5. Product specification	
Physical form of the product:	Part of a preparation can be a liquid or solid.

Concentration of substance in preparation / mixture or article:	Users to specify
Service life of substances in articles:	Users to specify
6. Risk Management Measures	
Occupational exposure controls:	Keep area well ventilated. Precautions against dust explosion and irritation caused by dust inhalation.
Environmental Exposure Controls:	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.
7. Consumer use:	Not applicable
8. Waste management measures	
Description and information on safe handling of surplus or waste:	Neutralise before treatment in a sewage treatment plant. Disposal untreated waste should be in accordance with local, state or national legislation.
9. Exposure assessment	
Human exposure prediction:	
Workers:	Short term exposure during application. Use of PPE will to minimise handling and contact.
Consumers:	Not applicable
Method:	Not applicable
Exposure estimation:	Not known
Secondary Poisoning:	Not expected
Indirect exposure to humans via the environment:	Not expected
10. Other information	
Control parameters:	Refer to the eSDS
Method to check compliance:	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

15. Exposure Scenario	
1. Use of citric acid agricultural applications. Industrial, professional & consumer	
2. Processes and activities covered by the exposure scenario	
Sector of end use (SU):	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)
Chemical product category (PC):	08. Biocidal products (e.g. Disinfectants, pest control)
	12. Fertilizers
	21. Laboratory chemicals
Process category (PROC):	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

	19. Hand-mixing with intimate contact and only PPE available
Article Categories [AC]:	02. Formulation of preparations/mixtures
Environmental release category (ERC):	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
3. Operational conditions of use	
Control parameters:	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
Duration and frequency of use:	Users to specify
Maximum amount per time or activity:	Users to specify
Other operational conditions of use:	Avoid splashes and spills. Minimise manual handling.
Engineering control measures:	Local exhaust ventilation. Exposure limit values: Not known
Other protective equipment:	Good hygiene and housekeeping
Respiratory protection:	Required where ventilation is insufficient or exposure is prolonged
Hand protection:	Rubber or PVC gloves
Eye protection:	Wear safety goggles or face shield. Industrial professional - ensure eyewash and showers are in the proximity to workstation location.
Other information:	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.
4. Physical form of substance / preparation / mixture or article	
Information on basic physical and chemical properties:	Solid, crystalline, acidic as a liquid
5. Product specification	
Physical form of the product:	Part of a preparation can be a liquid or solid.
Concentration of substance in preparation / mixture or article:	Users to specify
Service life of substances in articles:	Users to specify
6. Risk Management Measures	
Occupational exposure controls:	Keep area well ventilated. Precautions against dust explosion and irritation caused by dust inhalation.
Environmental Exposure Controls:	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.
7. Consumer use:	Good hygiene and housekeeping
8. Waste management measures	
Description and information on safe handling of surplus or waste:	Neutralise before treatment in a sewage treatment plant. Disposal untreated waste should be in accordance with local, state or national legislation.
9. Exposure assessment	
Human exposure prediction:	
Workers:	Short term exposure during application. Use of PPE will to minimise handling and contact.
Consumers:	Short term exposure during application.
Method:	Not applicable
Exposure estimation:	Not known
Secondary Poisoning:	Not expected
Indirect exposure to humans via the environment:	Not expected
10. Other information	
Control parameters:	Refer to the eSDS
Method to check compliance:	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

	products
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16. Exposure Scenario	
1. Use of citric acid in medical devices. Industrial & consumer	
2. Processes and activities covered by the exposure scenario	
Sector of end use (SU):	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)
Chemical product category (PC):	20 Products such as ph-regulators, flocculants, precipitants, neutralization agents
Process category (PROC):	01. Use in closed process, no likelihood of exposure
Article Categories [AC]:	07. Industrial use of sub-stances in closed systems
Environmental release category (ERC):	8d. Wide dispersive outdoor use of processing aids in open systems
3. Operational conditions of use	
Control parameters:	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.
Duration and frequency of use:	Users to specify
Maximum amount per time or activity:	Users to specify
Other operational conditions of use:	Avoid splashes and spills. Minimise manual handling.
Engineering control measures:	Local exhaust ventilation. Exposure limit values: Not known
Other protective equipment:	Good hygiene and housekeeping
Respiratory protection:	Required where ventilation is insufficient or exposure is prolonged
Hand protection:	Rubber or PVC gloves
Eye protection:	Wear safety goggles or face shield. Industrial professional - ensure eyewash and showers are in the proximity to workstation location.
Other information:	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.
4. Physical form of substance / preparation / mixture or article	
Information on basic physical and chemical properties:	Solid, crystalline, acidic as a liquid
5. Product specification	
Physical form of the product:	Part of a preparation can be a liquid or solid.
Concentration of substance in preparation / mixture or article:	Users to specify
Service life of substances in articles:	Users to specify
6. Risk Management Measures	
Occupational exposure controls:	Keep area well ventilated. Precautions against dust explosion and irritation caused by dust inhalation.
Environmental Exposure Controls:	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.
7. Consumer use:	Good hygiene and housekeeping
8. Waste management measures	
Description and information on safe handling of surplus or waste:	Neutralise before treatment in a sewage treatment plant. Disposal untreated waste should be in accordance with local, state or national legislation.
9. Exposure assessment	
Human exposure prediction:	
Workers:	Use of PPE will to minimise handling and contact.

Consumers:	Good hygiene and housekeeping
Method:	Not applicable
Exposure estimation:	Not known
Secondary Poisoning:	Not expected
Indirect exposure to humans via the environment:	Not expected
10. Other information	
Control parameters:	Refer to the eSDS
Method to check compliance:	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