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Αριθμός έκδοσης 2 (αντικαθιστά την έκδοση 1)

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ΤΜΗΜΑ 1: Προσδιορισμός ουσίας/μείγματος και εταιρείας/επιχείρησης

1.1 Αναγνωριστικός κωδικός προϊόντος

Ονομασία του προϊόντος στο εμπόριο: ΚΙΤΡΙΚΟ ΟΞΥ ΕΝΥΔΡΟ
Αριθμός CAS:
5949-29-1
Αριθμός EC:
201-069-1
Αριθμός καταχώρισης REACH: 01-2119457026-42-XXXX

1.2 Συναφείς προσδιοριζόμενες χρήσεις της ουσίας ή του μείγματος και αντενδεικνυόμενες χρήσεις
Χρήση ως Ενδιάμεσο.
Σύνθεση και (ανα)συσκευασία ουσιών και μειγμάτων.
Χρήση σε Απορρυπαντικά και καθαριστικά προϊόντα.
Χρήση σε Γεωργικές εφαρμογές.
Χρήση σε Προϊόντα προσωπικής φροντίδας.
Χρήση στη Βιομηχανία χαρτιού.
Χρήση σε Προϊόντα δομικών κατασκευών.
Χρήση σε Πολυμερή και πλαστικά.
Χρήση σε στη Βιομηχανία πετρελαίου.
Χρήση σε στη Βιομηχανία κλωστοϋφαντουργίας.
Χρήση σε Χρώματα και επιστρώσεις.
Χρήση σε Προϊόντα φωτογραφίας.
Χρήση σε Εργαστηριακά αντιδραστήρια.
Χρήση σε Επεξεργασία νερού.
Χρήση σε Επεξεργασία μεταλλικών επιφανειών.
Χρήση σε Ιατρικές συσκευές.
Χρήση του υλικού / του μείγματος Δείτε τις προσδιορισμένες χρήσεις

1.3 Στοιχεία του προμηθευτή του δελτίου δεδομένων ασφαλείας
Παραγωγός/προμηθευτής:
ΧΗΜΙΚΑ ΚΑΛΟΓΕΡΟΠΟΥΛΟΣ Α.Ε.
Δ. Γούναρη 35
185 31 Πειραιάς
Τηλ: 210 4124518
Φαξ: 210 4101607
e-mail: info@kalochem.gr
website: www.kalochem.gr
Αρ. Γ.Ε.ΜΗ.: 44361107000

1.4 Αριθμός τηλεφώνου επείγουσας ανάγκης:

Τηλ. Κέντρου Δηλητηριάσεων: +30 210 7793777 (Ελλάδα)

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(συνέχεια από τη σελίδα 1)

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ΤΜΗΜΑ 2: Προσδιορισμός επικινδυνότητας

2.1 Ταξινόμηση της ουσίας ή του μείγματος
Ταξινόμηση σύμφωνα με τον κανονισμό (ΕΚ) αριθ. 1272/2008


GHS07

Eye Irrit. 2 H319 Προκαλεί σοβαρό οφθαλμικό ερεθισμό.
STOT SE 3 H335 Μπορεί να προκαλέσει ερεθισμό της αναπνευστικής οδού.

2.2 Στοιχεία ετικέτας
Επισήμανση σύμφωνα με τον κανονισμό (ΕΚ) αριθ. 1272/2008
Η ουσία ταξινομείται και επισημαίνεται σύμφωνα με τον κανονισμό CLP.
Εικονογράμματα κινδύνου


GHS07

Προειδοποιητική λέξη Προσοχή

Επικίνδυνα συστατικά πρέπει να αναφέρονται στις ετικέτες:
Κιτρικό οξύ Μονοϋδρικό

Δηλώσεις επικινδυνότητας
H319 Προκαλεί σοβαρό οφθαλμικό ερεθισμό.
H335 Μπορεί να προκαλέσει ερεθισμό της αναπνευστικής οδού.

Δηλώσεις προφυλάξεων
P261 Αποφεύγετε να αναπνέετε σκόνη/αναθυμιάσεις/αέρια/συγκεντρώσεις σταγονιδίων/ατμούς/εκνεφώματα.
P264 Πλύνετε τα χέρια σχολαστικά μετά το χειρισμό.
P280 Να φοράτε προστατευτικά γάντια/ προστατευτικά ενδύματα/μέσα ατομικής προστασίας για τα μάτια/το πρόσωπο/τα αυτιά.
P305+P351+P338 ΣΕ ΠΕΡΙΠΤΩΣΗ ΕΠΑΦΗΣ ΜΕ ΤΑ ΜΑΤΙΑ: Ξεπλύνετε προσεκτικά με νερό για αρκετά λεπτά. Αν υπάρχουν φακοί επαφής, αφαιρέστε τους, αν είναι εύκολο. Συνεχίστε να ξεπλένετε.
P312 Καλέστε το ΚΕΝΤΡΟ ΔΗΛΗΤΗΡΙΑΣΕΩΝ/γιατρό, αν αισθανθείτε αδιαθεσία.
P337+P313 Εάν δεν υποχωρεί ο οφθαλμικός ερεθισμός: Συμβουλευθείτε/Επισκεφθείτε γιατρό.

2.3 Άλλοι κίνδυνοι
Αποτελέσματα της αξιολόγησης ΑΒΤ και αΑαΒ
Αυτή η ουσία/μίγμα δεν τηρεί τα κριτήρια ΑΒΤ & αΑαΒ του κανονισμού REACH, Παράρτημα XIII.
ΑΒΤ: Μη εφαρμόσιμο
αΑαΒ: Μη εφαρμόσιμο

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(συνέχεια από τη σελίδα 2)

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ΤΜΗΜΑ 3: Σύνθεση/πληροφορίες για τα συστατικά

3.1 Ουσίες
Αριθ. CAS, όνομα
CAS: 5949-29-1 Κιτρικό οξύ Μονοϋδρικό - 100% w/w
Αριθμός(οί) ταυτότητας προϊόντος
Αριθμός ΕC: 201-069-1

ΤΜΗΜΑ 4: Μέτρα πρώτων βοηθειών

4.1 Περιγραφή μέτρων πρώτων βοηθειών
Γενικές οδηγίες:
Να μεταφέρετε τους πάσχοντες στον καθαρό αέρα.
Να απομακρύνετε αμέσως τα ενδύματα που λερώθηκαν με το προϊόν.
Σε περίπτωση ενοχλήσεων καλέστε γιατρό.
Μετά από εισπνοή:
Μεταφέρετε τον παθόντα στον καθαρό αέρα και αφήστε τον να ξεκουραστεί σε στάση που διευκολύνει την αναπνοή.
Σε περίπτωση λιποθυμίας επιβάλλεται κατάκλιση και μεταφορά σε σταθερή πλάγια θέση.
Στη περίπτωση ενοχλήσεων συμβουλευτείτε γιατρό.
Μετά από επαφή με το δέρμα:
Αφαιρέστε την μολυσμένη ενδυμασία.
Ξεπλυθείτε αμέσως με νερό και σαπούνι πολύ καλά.
Σε περίπτωση συνεχιζόμενου ερεθισμού, επισκεφθείτε γιατρό.
Μετά από επαφή με τα μάτια:
Ξεπλύνετε άμεσα τα μάτια με άφθονο νερό, ανασηκώνοντας εναλλάξ τα πάνω και κάτω βλέφαρα.
Ελέγξτε και αφαιρέστε εάν υπάρχουν τους φακούς επαφής.
Συνεχίστε να ξεπλένετε για τουλάχιστον 10 λεπτά.
Αναζητείστε ιατρική βοήθεια σε περίπτωση που εμφανιστεί ερεθισμός.
Προσοχή κατά την πλύση των οφθαλμών, η εκτόξευση νερού με μεγάλη πίεση ενέχει κίνδυνο καταστροφής του κερατοειδούς, συμβουλευτείτε ένα γιατρό.
Μετά από κατάποση:
Μην προκαλέσετε εμετό, ζητήστε αμέσως τη βοήθεια γιατρού.
Πιείτε άφθονο νερό και παραμείνετε στον καθαρό αέρα.
Ποτέ μην χορηγείτε κάτι από το στόμα σε αναίσθητο άνθρωπο.
4.2 Σημαντικότερα συμπτώματα και επιδράσεις, άμεσες ή μεταγενέστερες
Δεν διατίθενται άλλες σχετικές πληροφορίες.
4.3 Ένδειξη οποιασδήποτε απαιτούμενης άμεσης ιατρικής φροντίδας και ειδικής θεραπείας
Δεν διατίθενται άλλες σχετικές πληροφορίες.

ΤΜΗΜΑ 5: Μέτρα για την καταπολέμηση της πυρκαγιάς

5.1 Πυροσβεστικά μέσα
Κατάλληλα πυροσβεστικά μέσα: CO2, ψεκασμός νερού, ξηρή σκόνη και αφρός ανθεκτικός σε αλκοόλες.
Πυροσβεστικά μέσα που για λόγους ασφαλείας είναι ακατάλληλα: Νερό με πλήρη εκτίναξη
5.2 Ειδικοί κίνδυνοι που προκύπτουν από την ουσία ή το μείγμα Οξείδια του άνθρακα (COx)
5.3 Συστάσεις για τους πυροσβέστες
Ειδικός προστατευτικός εξοπλισμός:
Αυτόνομη αναπνευστική συσκευή και προστατευτική ενδυμασία σε περίπτωση πυρκαγιάς.

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(συνέχεια από τη σελίδα 3)

Ψύξη των γειτονικών δοχείων να γίνεται με ψεκασμό νερού από ασφαλή απόσταση.
Πρόσθετες πληροφορίες
Μολυσμένα νερά πυρόσβεσης συλλέγονται ξεχωριστά, δεν επιτρέπεται να αδειάζονται στην αποχέτευση.

ΤΜΗΜΑ 6: Μέτρα σε περίπτωση ακούσιας έκλυσης

6.1 Προσωπικές προφυλάξεις, προστατευτικός εξοπλισμός και διαδικασίες έκτακτης ανάγκης
Χρησιμοποιείστε προστατευτικό εξοπλισμό. Απομακρύνετε τα απροστάτευτα πρόσωπα.
Φροντίστε για επαρκή αερισμό.
Αποφύγετε την επαφή με το δέρμα και τα μάτια.
Αποφύγετε την εισπνοή σκόνης.
Πληροφορίες για τα μέτρα προστασίας, βλέπε τα τμήματα 7 και 8.
6.1.1 Για προσωπικό μη έκτακτης ανάγκης Προσοχή στη δημιουργία ολισθηρών επιφανειών.
6.1.2 Για άτομα που προσφέρουν πρώτες βοήθειες
Τα άτομα που προσφέρουν πρώτες βοήθειες πρέπει να φορούν προστατευτική ενδυμασία, προστατευτικά γάντια, προστατευτικά γυαλιά και αναπνευστική συσκευή.
6.2 Περιβαλλοντικές προφυλάξεις
Μην το αδειάζετε στην αποχέτευση και σε επιφάνειες υδάτων. Δεν πρέπει να διεισδύσει στον υδροφόρο ορίζοντα.
6.3 Μέθοδοι και υλικά για περιορισμό και καθαρισμό
Συλλέγεται μηχανικά και τοποθετείται σε δοχεία κατάλληλα για απόρριψη.
Αντιμετωπίστε ανακτημένο υλικό, όπως περιγράφεται στο κεφάλαιο 13.
6.4 Παραπομπή σε άλλα τμήματα
Πληροφορίες για τον χειρισμό βλέπε κεφάλαιο 7.
Πληροφορίες για τον ατομικό προστατευτικό εξοπλισμό βρείτε στο κεφάλαιο 8.
Πληροφορίες για την απόρριψη βλέπε κεφάλαιο 13.

ΤΜΗΜΑ 7: Χειρισμός και αποθήκευση

7.1 Προφυλάξεις για ασφαλή χειρισμό
Αποφύγετε την επαφή με το δέρμα και τα μάτια.
Αποφύγετε την εισπνοή σκόνης.
Μην τρώτε, πίνετε ή καπνίζετε όταν χρησιμοποιείτε αυτό το προϊόν.
Πλύνετε τα μολυσμένα ρούχα πριν τα επαναχρησιμοποιήσετε.
Πλύνετε τα χέρια σας πριν από κάθε διάλειμμα και μετά την ολοκλήρωση της εργασίας.
Φορέστε τον κατάλληλο ατομικό προστατευτικό εξοπλισμό (βλ. Τμήμα 8).
Να χρησιμοποιείται μόνο σε καλά αεριζόμενους χώρους.
Οδηγίες για τον τρόπο προστασίας κατά της πυρκαγιάς και έκρηξης:
Μακριά από θερμότητα, σπινθήρες, γυμνή φλόγα και θερμές επιφάνειες.
7.2 Συνθήκες ασφαλούς φύλαξης, συμπεριλαμβανομένων τυχόν ασυμβατοτήτων
Τεχνικά μέτρα και συνθήκες αποθήκευσης:
Να αποθηκεύεται σε καλά κλεισμένους περιέκτες, σε καλά αεριζόμενο χώρο. Να διατηρείται δροσερό.
Απαιτήσεις για χώρους και δοχεία αποθήκευσης:
Διατηρείται στην αρχική του συσκευασία.
Παρέχετε δάπεδο ανθεκτικό στο οξύ.
Υποδείξεις συναποθήκευσης:
Αποθηκεύεται μακριά από οξειδωτικούς παράγοντες.
Αποθηκεύεται μακριά από ισχυρές βάσεις

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Περαιτέρω δηλώσεις για τους όρους αποθήκευσης:
Να διατηρείται σε καλά κλεισμένο δοχείο.
Να προστατεύεται από τη ζέστη και την άμεση επίδραση του ήλιου.
7.3 Ειδική τελική χρήση ή χρήσεις Δεν είναι διαθέσιμες άλλες σχετικές πληροφορίες.

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ΤΜΗΜΑ 8: Έλεγχος της έκθεσης/ατομική προστασία

8.1 Παράμετροι ελέγχου
Συστατικά στοιχεία με οριακές τιμές επαγγελματικής έκθεσης: Δεν υπάρχει.

8.2 Έλεγχοι έκθεσης

8.2.1 Κατάλληλοι μηχανικοί έλεγχοι: Εξασφαλίστε επαρκή εξαερισμό.

Μέτρα ατομικής προστασίας, όπως ατομικός προστατευτικός εξοπλισμός
Γενικά μέτρα προστασίας και υγιεινής:
Αποφύγετε την επαφή με το δέρμα και τα μάτια.
Αποφύγετε την εισπνοή σκόνης.
Αφαιρέστε τα μολυσμένα ρούχα και πλύνετε πριν τα ξαναχρησιμοποιήσετε.
Να πλένεστε πολύ καλά μετά από την εργασία και πριν από τα διαλείμματα.
Μακριά από τρόφιμα, ποτά και ζωοτροφές.
Όταν χρησιμοποιείτε το προϊόν μην τρώτε, μην πίνετε, και μην καπνίζετε.
Προστασία των αναπνευστικών οδών

Χρησιμοποιήστε κατάλληλα συστήματα αναπνευστικής προστασίας όπως FFP1 ή FFP2 (EN 149).

Προστασία των χεριών

Προστατευτικά γάντια ανθεκτικά στα χημικά (standard EN 374-1)

Το υλικό των γαντιών θα πρέπει να είναι αδιαπέραστο και ανθεκτικό έναντι του προϊόντος / του υλικού / του παρασκευάσματος.
Επιλέξτε το υλικό του γαντιού λαμβάνοντας υπ' όψη τους χρόνους διέλευσης, το βαθμό διαπερατότητας και την υποβάθμιση.
Λόγω μη πραγματοποίησης δοκιμών δεν μπορεί να προταθεί κανένα υλικό γαντιών για το προϊόν / το παρασκεύασμα / το χημικό μείγμα.
Υλικό γαντιών:
Η επιλογή του κατάλληλου γαντιού δεν εξαρτάται μόνον από το υλικό, αλλά και τα επιπλέον χαρακτηριστικά ποιότητας, τα οποία διαφέρουν ανάλογα με τον κατασκευαστή.
Χρόνος διείσδυσης του υλικού γαντιών:
Οι χρόνοι διέλευσης σύμφωνα με τον κανονισμό EN 374 Μέρος III ενίοτε δεν ισχύουν υπό πραγματικές συνθήκες. Προτείνεται μέγιστος χρόνος χρήσης που αντιστοιχεί στο 50% του χρόνου διέλευσης.
Προστασία των ματιών / του προσώπου

Χρησιμοποιείστε γυαλιά ασφαλείας με πλευρικές ασπίδες σε συμμορφωση με το EN 166.

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(συνέχεια από τη σελίδα 5)

Προστασία για το σώμα:

Προστατευτική ενδυμασία εργασίας.

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ΤΜΗΜΑ 9: Φυσικές και χημικές ιδιότητες

9.1 Στοιχεία για τις βασικές φυσικές και χημικές ιδιότητες

Γενικές πληροφορίες	
Φυσική κατάσταση	Στερεό
Χρώμα:	Άσπρο
Οσμή:	άοσμο
Όριο οσμής:	Μη καθορισμένο
Σημείο τήξεως/σημείο πήξεως:	153 °C
Ανώτατο και κατώτατο όριο εκρηξιμότητας	
κατώτερα:	Μη καθορισμένο
ανώτερα:	Μη καθορισμένο
Σημείο ανάφλεξης:	Μη εύφλεκτο
Θερμοκρασία αυτοανάφλεξης:	Μη καθορισμένη
Θερμοκρασία αποσύνθεσης:	> 175 °C
pH	1,8
Ιξώδες	
Κινηματικό ιξώδες	Μη χρησιμοποιήσιμο
δυναμικό:	Μη χρησιμοποιήσιμο
Διαλυτότητα	
νερό σε 20 °C:	590 g/l
Συντελεστής κατανομής σε n-οκτανόλη/νερό	
(λογαριθμική τιμή)	-0,2 – -1,8 log POW
Τάση ατμών σε 25 °C	2,2 E 6 Pa
Πυκνότητα και/ή σχετική πυκνότητα	
Πυκνότητα σε 20 °C:	1,665 g/cm³
Σχετική πυκνότητα	Μη καθορισμένο
Πυκνότητα ατμών	Μη χρησιμοποιήσιμο
Χαρακτηριστικά σωματιδίων	Βλέπε κεφάλαιο 3.

9.2 Λοιπές πληροφορίες

Όψη:	
Μορφή:	Στερεό
Σημαντικές πληροφορίες για την προστασία της υγείας και του περιβάλλοντος, αλλά και την ασφάλεια.	
Εκρηκτικές ιδιότητες:	Δεν υφίσταται κίνδυνος εκρήξεως του προϊόντος.
Σημείο θολώσεως:	
Οξειδωτικές ιδιότητες	Δεν ταξινομείται ως οξειδωτικό.
Ρυθμός εξάτμισης	Μη χρησιμοποιήσιμο

(συνέχεια στη σελίδα 7)

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Ονομασία του προϊόντος στο εμπόριο: ΚΙΤΡΙΚΟ ΟΞΥ ΕΝΥΔΡΟ

(συνέχεια από τη σελίδα 6)

Πληροφορίες σχετικά με τις κλάσεις φυσικού κινδύνου	
Εκρηκτικά	εκπίπτει
Εύφλεκτα αέρια	εκπίπτει
Αερολύματα	εκπίπτει
Οξειδωτικά αέρια	εκπίπτει
Αέρια υπό πίεση	εκπίπτει
Εύφλεκτα υγρά	εκπίπτει
Εύφλεκτα στερεά	εκπίπτει
Αυτενεργές ουσίες και μείγματα	εκπίπτει
Πυροφορικά υγρά	εκπίπτει
Πυροφορικά στερεά	εκπίπτει
Αυτοθερμαινόμενες ουσίες και μείγματα	εκπίπτει
Ουσίες και μείγματα που εκλύουν εύφλεκτα αέρια σε επαφή με το νερό	εκπίπτει
Οξειδωτικά υγρά	εκπίπτει
Οξειδωτικά στερεά	εκπίπτει
Οργανικά υπεροξείδια	εκπίπτει
Ουσίες και μείγματα που δρουν διαβρωτικά έναντι των μετάλλων	εκπίπτει
Απευαισθητοποιημένα εκρηκτικά/μείγματα και προϊόντα με εκρηκτικά	εκπίπτει

ΤΜΗΜΑ 10: Σταθερότητα και αντιδραστικότητα

10.1 Αντιδραστικότητα Αντιδρά με αλκαλικούς παράγοντες.
10.2 Χημική σταθερότητα
Θερμική αποσύνθεση / Όροι που πρέπει να αποφεύγονται: Ευσταθές στη θερμοκρασία περιβάλλοντος.
10.3 Πιθανότητα επικίνδυνων αντιδράσεων Δεν είναι γνωστή καμία επικίνδυνη αντίδραση.
10.4 Συνθήκες προς αποφυγή Αποφύγετε τη θερμότητα, τις φλόγες, τους σπινθήρες, άλλες πηγές ανάφλεξης
10.5 Μη συμβατά υλικά:
Οξειδωτικοί παράγοντες
Ισχυρές βάσεις
10.6 Επικίνδυνα προϊόντα αποσύνθεσης: Η καύση παράγει οξείδιο του άνθρακα

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ΤΜΗΜΑ 11: Τοξικολογικές πληροφορίες

11.1 Πληροφορίες για τις τάξεις κινδύνου, όπως ορίζονται στον κανονισμό (ΕΚ) αριθ. 1272/2008
Οξεία τοξικότητα Βάσει των διαθέσιμων δεδομένων, τα κριτήρια ταξινόμησης δεν πληρούνται.

Εκτίμηση Οξείας Τοξικότητας -LD/LC50		
CAS: 5949-29-1 Κιτρικό οξύ Μονοϋδρικό		
Από το στόμα	LD50	5400 mg/kg (ποντίκι) (OECD 401)
Από το δέρμα	LD50	>2000 mg/kg (rabbit) (OECD 402)

Διάβρωση και ερεθισμός του δέρματος
Βάσει των διαθέσιμων δεδομένων, τα κριτήρια ταξινόμησης δεν πληρούνται.

(συνέχεια στη σελίδα 8)

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(συνέχεια από τη σελίδα 7)

Σοβαρή οφθαλμική βλάβη/ερεθισμός
Μπορεί να προκαλέσει ερεθισμό
Προκαλεί σοβαρό οφθαλμικό ερεθισμό.
Ευαισθητοποίηση του αναπνευστικού ή ευαισθητοποίηση του δέρματος
Βάσει των διαθέσιμων δεδομένων, τα κριτήρια ταξινόμησης δεν πληρούνται.
Μεταλλαξιογένεση γεννητικών κυττάρων
Βάσει των διαθέσιμων δεδομένων, τα κριτήρια ταξινόμησης δεν πληρούνται.
Καρκινογένεση Βάσει των διαθέσιμων δεδομένων, τα κριτήρια ταξινόμησης δεν πληρούνται.
Τοξικότητα στην αναπαραγωγή Βάσει των διαθέσιμων δεδομένων, τα κριτήρια ταξινόμησης δεν πληρούνται.
Ειδική τοξικότητα στα όργανα-στόχους (STOT) - εφάπαξ έκθεση
Ειδική Τοξικότητα σε όργανα στόχους Κατηγορία 3 κατόπιν εφάπαξ έκθεσης
Μπορεί να προκαλέσει ερεθισμό της αναπνευστικής οδού.
Ειδική τοξικότητα στα όργανα-στόχους (STOT) - επανειλημμένη έκθεση
Βάσει των διαθέσιμων δεδομένων, τα κριτήρια ταξινόμησης δεν πληρούνται.
Επικινδυνότητα αναρρόφησης Βάσει των διαθέσιμων δεδομένων, τα κριτήρια ταξινόμησης δεν πληρούνται.
Συμπληρωματικές τοξικολογικές ενδείξεις:
Τοξικότητα σε περίπτωση επαναλαμβανόμενης δόσης
Βάσει των διαθέσιμων δεδομένων, τα κριτήρια ταξινόμησης δεν πληρούνται.
11.2 Πληροφορίες για άλλους τύπους επικινδυνότητας

Ιδιότητες ενδοκρινικής διαταραχής
Η ουσία δεν περιέχεται

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ΤΜΗΜΑ 12: Οικολογικές πληροφορίες

12.1 Τοξικότητα

Υδατική τοξικότητα:	
CAS: 5949-29-1 Κιτρικό οξύ Μονοϋδρικό	
EC50 (72h)	425 mg/l (Άλγη)
EC50 (48h)	442 mg/l (Ψάρι)

12.2 Ανθεκτικότητα και ικανότητα αποδόμησης Βιοδιασπώμενο
12.3 Δυνατότητα βιοσυσσώρευσης Δεν βιοσυσσωρεύεται
12.4 Κινητικότητα στο έδαφος Δεν διατίθενται άλλες σχετικές πληροφορίες.
12.5 Αποτελέσματα της αξιολόγησης ΑΒΤ και αΑαΒ
Αυτή η ουσία/μίγμα δεν τηρεί τα κριτήρια ΑΒΤ του κανονισμού REACH, Παράρτημα XIII.
ΑΒΤ: Μη εφαρμόσιμο
αΑαΒ: Μη εφαρμόσιμο
12.6 Ιδιότητες ενδοκρινικής διαταραχής
Το προϊόν δεν περιέχει ουσίες με ιδιότητες που διαταράσσουν το ενδοκρινικό σύστημα.
12.7 Άλλες αρνητικές επιπτώσεις Δεν διατίθενται άλλες σχετικές πληροφορίες.

(συνέχεια στη σελίδα 9)

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(συνέχεια από τη σελίδα 8)

ΤΜΗΜΑ 13: Στοιχεία σχετικά με τη διάθεση

13.1 Μέθοδοι επεξεργασίας αποβλήτων
Σύσταση:

Η διάθεση του υλικού πρέπει να είναι σύμφωνη με την Εθνική Νομοθεσία.

Δεν επιτρέπεται να εναποτίθεται μαζί με τα κοινά απορρίμματα. Μην το αδειάζετε στην αποχέτευση.

Για ανακύκλωση απευθυνθείτε στον παραγωγό.

Ευρωπαϊκός κατάλογος αποβλήτων	
HP4	Ερεθιστικό - ερεθισμός του δέρματος και οφθαλμική βλάβη
HP5	Ειδική τοξικότητα στα όργανα-στόχους (ΕΤΟΣ)/Τοξικότητα από αναρρόφηση

Ακάθαρτες συσκευασίες:
Σύσταση: Η εναπόθεση πρέπει να γίνεται σύμφωνα με τις επίσημες οδηγίες.

ΤΜΗΜΑ 14: Πληροφορίες σχετικά με τη μεταφορά

14.1 Αριθμός ΟΗΕ ή αριθμός ταυτότητας **ADR, ADN, IMDG, IATA**	εκπίπτει
14.2 Οικεία ονομασία αποστολής ΟΗΕ **ADR, ADN, IMDG, IATA**	εκπίπτει
14.3 Τάξης/-εις κινδύνου κατά τη μεταφορά **ADR, ADN, IMDG, IATA** **Κλάση**	εκπίπτει
14.4 Ομάδα συσκευασίας **ADR, IMDG, IATA**	εκπίπτει
14.5 Περιβαλλοντικοί κίνδυνοι	Μη εφαρμόσιμο
14.6 Ειδικές προφυλάξεις για τον χρήστη	Δεν έχει εφαρμογή
14.7 Θαλάσσιες μεταφορές χύδην σύμφωνα με τις πράξεις του IMO	Δεν έχει εφαρμογή
UN "Model Regulation":	εκπίπτει

(συνέχεια στη σελίδα 10)

Δελτίο δεδομένων ασφαλείας
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(συνέχεια από τη σελίδα 9)

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ΤΜΗΜΑ 15: Στοιχεία νομοθετικού χαρακτήρα

15.1 Κανονισμοί/νομοθεσία σχετικά με την ασφάλεια, την υγεία και το περιβάλλον για την ουσία ή το μείγμα
Κανονισμός (ΕΕ) 2020/878
Κανονισμός CLP 1272/2008/ΕΚ
Κανονισμός REACH 1907/2006/ΕΚ
Οδηγία 98/24/ΕΚ του Συμβουλίου της 7ης Απριλίου 1998 για την Προστασία της Υγείας και Ασφάλειας των Εργαζομένων κατά την Εργασία από Κινδύνους Οφειλόμενους σε Χημικούς Παράγοντες
Οδηγία 94/33/ΕΚ για την προστασία των νέων κατά την εργασία, όπως έχει τροποποιηθεί και ισχύει.
Οδηγία 92/85/ΕΟΚ σχετικά με την εφαρμογή μέτρων που αποβλέπουν στη βελτίωση της υγείας και της ασφάλειας κατά την εργασία των εγκύων, λεχώνων και γαλουχουσων εργαζομένων, όπως έχει τροποποιηθεί και ισχύει.

Οδηγία 2012/18 / ΕΕ
Κατονομαζόμενες επικίνδυνες ουσίες - ΠΑΡΑΡΤΗΜΑ I
Κανένα από τα συστατικά στοιχεία δεν περιέχεται στη λίστα.
Η ουσία δεν περιλαμβάνεται στο Παράρτημα I.

Οδηγία 2011/65/ΕΕ για τον περιορισμό της χρήσης ορισμένων επικίνδυνων ουσιών σε ηλεκτρικό και ηλεκτρονικό εξοπλισμό - Παραρτημα II
Η ουσία δεν περιέχεται

ΚΑΝΟΝΙΣΜΟΣ (ΕΕ) 2019/1148

Παραρτημα I - ΠΡΟΔΡΟΜΕΣ ΟΥΣΙΕΣ ΕΚΡΗΚΤΙΚΩΝ ΥΛΩΝ ΥΠΟ ΠΕΡΙΟΡΙΣΜΟΥΣ (Ανώτατη τιμή ορίου για τους σκοπούς της χορήγησης άδειας σύμφωνα με το άρθρο 5 παράγραφος 3)
Η ουσία δεν περιέχεται

Παραρτημα II - ΔΗΛΩΤΕΕΣ ΠΡΟΔΡΟΜΕΣ ΟΥΣΙΕΣ ΕΚΡΗΚΤΙΚΩΝ ΥΛΩΝ
Η ουσία δεν περιέχεται

Κανονισμός (ΕΚ) αριθ. 273/2004 περί των προδρόμων ουσιών των ναρκωτικών
Η ουσία δεν περιέχεται

Κανονισμόσ (ΕΚ) αριθ. 111/2005 σχετικά με τη θέσπιση κανόνων για την παρακολούθηση του εμπορίου πρόδρομων ουσιών ναρκωτικών μεταξύ της Κοινότητας και τρίτων χωρών
Η ουσία δεν περιέχεται

Εθνικές διατάξεις:

Άλλες διατάξεις, περιορισμοί και απαγορεύσεις

Ουσίες που προκαλούν πολύ μεγάλη ανησυχία (SVHC) σύμφωνα με το REACH, άρθρο 57
Δεν ανήκει στις ουσίες που προκαλούν πολύ μεγάλη ανησυχια (SVHC).

15.2 Αξιολόγηση χημικής ασφάλειας: Η αξιολόγηση χημικής ασφάλειας πραγματοποιήθηκε.

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ΤΜΗΜΑ 16: Λοιπές πληροφορίες

Αυτές οι δηλώσεις βασίζονται στο σημερινό επίπεδο των γνώσεών μας, δεν αποτελούν εγγύηση για τις ιδιότητες των προϊόντων ούτε αιτιολογούν τη δημιουργία συμβατικών υποχρεώσεων.

(συνέχεια στη σελίδα 11)

Δελτίο δεδομένων ασφαλείας σύμφωνα με τους Κανονισμούς 1907/2006/ΕΚ (REACH) Άρθρο 31, τον (ΕΕ) 2020/878 και τον 1272/2008/ΕΚ (CLP)

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(συνέχεια από τη σελίδα 10)

Υποδείξεις εκπαίδευσης
Κατάλληλη εκπαίδευση για την ασφάλεια και τον χειρισμό θα πρέπει να παρέχεται σε όλους τους εργαζόμενους σύμφωνα με τις υπάρχουσες πληροφορίες.
Ταξινόμηση σύμφωνα με τον κανονισμό (ΕΚ) αριθ. 1272/2008 -

Δελτίο Δεδομένων Ασφαλείας, συντάχτηκε από:

SUSTCHEM A.E.
Τμήμα REACH & Χημικών Υπηρεσιών
Α: 3ης Σεπτεμβρίου 144 | 112 51, Αθήνα
Τ: +30 210 8252510 | F: +30 210 8252575
W: www.sustchem.gr | E: info@sustchem.gr
Αριθμός Γ.Ε.ΜΗ: 8669701000

Αριθμός προηγούμενης έκδοσης: 1
Συντμήσεις και αρκτικόλεξα:
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
Eye Irrit. 2: Σοβαρή οφθαλμική βλάβη/ερεθισμός των οφθαλμών – Κατηγορία 2
STOT SE 3: Ειδική τοξικότητα στα όργανα-στόχους (μία εφάπαξ έκθεση) – Κατηγορία 3
*** Τροποποιημένα στοιχεία σε σχέση με την προηγούμενη έκδοση**

Annexes
Exposure scenarios and Use Descriptors

Index

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 tabletting, 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

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 tabletting, 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 tabletting, 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

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