

ESSIGSAEURE 50-80%**Code : 10067****ABSCHNITT 1. Bezeichnung des Stoffs bzw. des Gemischs und des Unternehmens****1.1. Produktidentifikator**

Chemischer Name : Essigsäure , Ethansäure, Methankarbonsäure , Lösung (50-80%).
Art der Produktes : Reiner Produkt im Lösung .
Reach Registrierungsnummer : 01-2119475328-30

1.2. Relevante identifizierte Verwendungen des Stoffs oder Gemischs und Verwendungen von denen abgeraten wird

- * Identifizierte(n) Verwendung(en) : Siehe Tabelle auf der ersten Seite des Anhangs.
- * Verwendung(en) von denen abgeraten wird : Dieses Produkt ist nicht für irgendeiner anderen industriellen, gewerblichen Verwendung oder Verwendung durch den Verbraucher als in der Tabelle auf der ersten Seite des Anhangs empfohlen.
Nicht für die Verwendung in Dekorationsgegenständen, in Scherzspielen und in Spielen (gemäß Anhang XVII der Verordnung (EG) Nr. 1907/2006) (3. Flüssige Stoffe und Zubereitungen, welche die Kriterien für eine der folgenden in Anhang I der Verordnung (EG) Nr. 1272/20083 aufgeführten Gefahrenklassen oder -kategorien erfüllen: (a) Gefahrenklassen 2.1-2.4, 2.6, 2.7, 2.8 Typen A und B, 2.9, 2.10, 2.12, 2.13 Kategorien 1 und 2, 2.14 Kategorien 1 und 2, 2.15 Typen A-F, (b) Gefahrenklassen 3.1 - 3.6, 3.7 infolge Beeinträchtigung der Sexualfunktion und Fruchtbarkeit sowie der Entwicklung, 3.8 ausgenommen narkotisierende Wirkungen, 3.9 und 3.10, (c) Gefahrenklasse 4.1, (d) Gefahrenklasse 5.1).
Nicht für die Verwendung in Aerosolpackungen für Unterhaltungs- und Dekorationszwecke (gemäß Anhang XVII der Verordnung (EG) Nr. 1907/2006) (40. Stoffe, die als entzündbare Gase der Kategorien 1 oder 2, als entzündbare Flüssigkeiten der Kategorien 1, 2 oder 3, als entzündbare Feststoffe der Kategorie 1 oder 2, als Stoffe und Gemische, die in Berührung mit Wasser entzündbare Gase entwickeln, der Kategorien 1, 2 oder 3, als pyrophore Flüssigkeiten der Kategorie 1 oder als pyrophore Feststoffe der Kategorie 1 eingestuft wurden, und zwar unabhängig davon, ob sie in Anhang VI Teil 3 dieser Verordnung aufgeführt sind).

1.3. Einzelheiten zum Lieferanten, der das Sicherheitsdatenblatt bereitstellt

Firmenidentifizierung : BRENNTAG N.V. - Nijverheidslaan 38 - BE-8540 DEERLIJK
TEL: +32(0)56/77.69.44 - FAX: +32(0)56/77/57/11
E-MAIL: info@brenntag.be - Website: www.brenntag.be

BRENNTAG Nederland B.V. - Donker Duyvisweg 44 - NL-3316 BM DORDRECHT
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E-MAIL: info@brenntag.nl - Website: www.brenntag.nl

1.4. Notrufnummer

Notrufnummer : Belgien : Antigifzentrum - Brüssel
TEL: +32(0)70/245.245

Die Niederlande : National Vergiftungen Information Zentrum - Bilthoven
TEL: +31(0)30/274.88.88 (Ausschließlich zum Zwecke der Unterrichtung medizinisches Personal bei akuten Intoxikationen)

ABSCHNITT 2. Mögliche Gefahren**2.1. Einstufung des Stoffs oder Gemischs****Einstufung gemäß der Verordnung (EG) Nr. 1272/2008**

Hautätzend - Kategorie 1B - Gefahr (Skin Corr. 1B; H314)

2.2. Kennzeichnungselemente**Kennzeichnung gemäß der Verordnung (EG) Nr. 1272/2008**

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ABSCHNITT 2. Mögliche Gefahren (Fortsetzung)

- Gefährliches Bestandteil(en) : Essigsäure ... %
- Gefahren Piktogramm(e)



- Signalwort : Gefahr
- Gefahrenhinweise : H314 - Verursacht schwere Verätzungen der Haut und Augenschäden.
- Sicherheitshinweise
 - Prävention : P210 - Von heißen Oberflächen und offenen Flammen fernhalten. Nicht rauchen. P241 - Explosionsgeschützte elektrische Geräte/Lüftungsanlagen/ Beleuchtungsanlagen/.../ verwenden. P260 - Staub/Rauch/Gas/Nebel/Dampf/ Aerosol nicht einatmen. P280 - Schutzhandschuhe/Schutzkleidung/Augenschutz/ Gesichtsschutz tragen.
 - Reaktion : P303+P361+P353 - BEI BERÜHRUNG MIT DER HAUT (oder dem Haar) : Alle kontaminierten Kleidungsstücke sofort ausziehen. Haut mit Wasser abwaschen/ duschen. P305+P351+P338 - BEI KONTAKT MIT DEN AUGEN : Einige Minuten lang behutsam mit Wasser ausspülen. Vorhandene Kontaktlinsen nach Möglichkeit entfernen. Weiter spülen.
 - Hinweise zur Entsorgung : P501 - Diesen Produkt und seinen Behälter der Problemabfallentsorgung zuführen.

2.3. Sonstige Gefahren

- Physikalische/chemische Gefahren : Korrodiert Metalle unter Wasserstoffgasentwicklung.
- Gefahren für die Gesundheit : Ein Gesundheits gefährliche Konzentration in der Luft wird beim Verdampfen von diese Substanz bei ca. 20°C nur schnell erreicht; durch Sprühen noch schneller.
- Gefahren für die Umwelt : Produkt verursacht eine starke Verminderung des pH-Werts von Wasser und Boden.
Dieses Produkt ist kein Substance oder enthält keine PBT oder vPvB (gemäß Anhang XIII).
- * Gefahren für die Sicherheit : Der Dampf vermischt sich gut mit Luft.
Beim Flammpunkt oder darüber, können vorhandene Dämpfe im Freien brennen oder in geschlossenen Behältern explodieren, wenn sie mit Luft vermischt, oder mit einer Zündquelle in Berührung gebracht werden.

ABSCHNITT 3. Zusammensetzung/Angaben zu Bestandteilen

3.1. Stoffe

Name Komponent(en)	Gew. %	CAS nr	EINECS nr	Index nr	Reach nr	EINSTUFUNG
* Essigsäure ...%	: 50 -80 %	64-19-7	200-580-7	607-002-00-6	01-2119475328-30	Flam. Liq. 3; H226 Skin Corr. 1A; H314

*

Der vollständige Text von die (EU)H-Hinweise ist im Abschnitt 16.
Anmerkung B (Verordnung (EG) Nr. 1272/2008) gilt für das Produkt oder für ein oder mehrere von seine Bestandteilen.
Hinweis: SCL gilt

ABSCHNITT 4. Erste-Hilfe-Maßnahmen

4.1. Beschreibung der Erste-Hilfe-Maßnahmen

- * Allgemein : JEDENFALLS ARZT KONSULTIEREN.
Bewußtlosen Menschen nichts eingeben.
- Erste Hilfe
- Einatmen : Frische Luft zuführen.
Opfer zur Ruhe kommen lassen, in halb-sitzender Lage bringen.
Bei unregelmässiger Atmung oder beim Atemstillstand, künstlich beatmen.

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ABSCHNITT 4. Erste-Hilfe-Maßnahmen (Fortsetzung)

- | | |
|---|--|
| - Hautkontakt

- Augenkontakt

- Verschlucken | Patient SOFORT nach Krankenhaus bringen.
: Verunreinigte Kleidung ablegen während das Spülen.
Haut sofort mit viel Wasser ausspülen. (ev. Duschen).
Patient SOFORT nach Krankenhaus bringen.
: Sofort gründlich und länger (mindestens 15 Min.) mit vielem Wasser ausspülen.
Kontaktlinsen ausnehmen.
Augenarzt konsultieren.
Während der Transport; Augen fortwährend ausspülen oder tröpfeln.
: KEIN ERBRECHEN HERBEIFÜHREN. Der Mund spülen mit Wasser.
Patient SOFORT nach Krankenhaus bringen. |
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4.2. Wichtigste akute oder verzögert auftretende Symptome und Wirkungen

- * Siehe Abschnitt 11.

4.3. Hinweise auf ärztliche Soforthilfe und Spezialbehandlung

- * Für fachliche Beratung Ärzte sollten sich an die NVIC oder die belgische Antgiftzentrum.

ABSCHNITT 5. Maßnahmen zur Brandbekämpfung
5.1. Löschmittel

Löschmittel

- | | |
|-------------------|---|
| - Geeignete | : Löschpulver , Schaum , Kohlenstoffdioxid (CO ₂) , Sprühwasser . |
| - Nicht geeignete | : Festen Wasserstrahl . |

5.2. Besondere vom Stoff oder Gemisch ausgehende Gefahren

Spezielle Expositionsgefahren : Beim Feuer können Kohlenstoffoxiden (CO) und Rauch freikommen.

5.3. Hinweise für die Brandbekämpfung

- | | |
|-----------------------|--|
| Schützende Ausrüstung | : In nächster Nähe des Feuers geschlossenes Atemschutzgerät verwenden und angemessene Schutzkleidung tragen. |
| Besondere Massnahmen | : Zur Kühlung in der Nähe befindlichen Geräts Wassersprühstrahl oder -nebel verwenden. Es ist zu vermeiden, daß zur Brandlöschung verwendetes Wasser in die Umwelt gelangt.
Löschwasser neutralisieren mit basischen Produkten. |

ABSCHNITT 6. Maßnahmen bei unbeabsichtigter Freisetzung
6.1. Personenbezogene Vorsichtsmaßnahmen, Schutzausrüstungen und in Notfällen anzuwendende Verfahren

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|-------------------------------------|--|
| Personenbezogene Vorsichtsmaßnahmen | : Alle mögliche Zündquelle (offenes Feuer, Funken, rauchen, ...) sind auszuschließen.
Sofort die Personen am angesteckten Ort räumen und gut lüften.
Einatmung der Dämpfe und Berührung mit Augen, Haut und Kleider vermeiden.
Empfohlene Personenschutz ausrüstung tragen. (Siehe Abschnitt 8) |
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6.2. Umweltschutzmaßnahmen

- | | |
|-----------------------|---|
| Umweltschutzmaßnahmen | : Wenn möglich Undichtheiten beseitigen.
Das gekleckerte Produkt soviel wie möglich mit inertem Material eindeichen.
Eindringen des Produkt in Kanalisation, öffentlichen Gewässer oder dem Boden verhindern.
Falls die Flüssigkeit in die Kanalisation oder öffentliche Gewässer gelangt, sind die Behörden zu benachrichtigen. |
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6.3. Methoden und Material für Rückhaltung und Reinigung

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ABSCHNITT 6. Maßnahmen bei unbeabsichtigter Freisetzung (Fortsetzung)

Reinigungsmethode : Die Leckflüssigkeit auffangen in abgeschlossenen und Korrosionbeständigen Fässer.
Die Flüssigkeit sofort mit vielen Wasser verdünnen und neutralisieren mit Base.
Rückstände mit vielen Wasser wegsprühen.

6.4. Verweis auf andere Abschnitte

Für persönliche Schutzmittel, siehe Abschnitt 8.
Für Behandlung des Abfallprodukts, siehe Abschnitt 13.

ABSCHNITT 7. Handhabung und Lagerung
7.1. Schutzmaßnahmen zur sicheren Handhabung

* Handhabung : NEBELFORMUNG VERMEIDEN !! KONTAKT MIT ALLES VERMEIDEN !!
Einatmung der Dämpfe und Berührung mit Augen, Haut und Kleider vermeiden.
Empfohlene Personenschutz-ausrüstung tragen. (Siehe Abschnitt 8)
Aufwärmen, spritzen und Dampf-bildung vermeiden bei leermachen, übergießen
verdünnen oder auflösen des Produkts.
Beim Verdünnen, immer die saure Lösung auf das Wasser gießen, nimmer
andersherum.
Bei der Arbeit nicht essen, trinken oder rauchen.
Notvorrichtungen für Augenspülungen und Duschen für Erste-Hilfe- Maßnahmen
bei der Behandlung von Erfrierungsverletzungen sollten dort, wo eine potentielle
Exposition eintreten kann, in unmittelbarer Nähe verfügbar sein.

7.2. Bedingungen zur sicheren Lagerung unter Berücksichtigung von Unverträglichkeiten

Lagerung : Nur im gut abgeschlossenen Originalbehälter an einem gut gelüfteten und
feuersicheren Ort aufbewahren.
Alle gefährlichen Produkte müssten auf einen Leckbehälter gesetzt werden oder
eingetont werden.
Fernhalten von : Oxidationsmittel , Laugen .

Feuer- und Explosionsprävention : Alle Zündquelle (offenes Feuer, Funken, rauchen, ...) entfernen.
Bei einer Temperatur gleich an oder höher als das Flammpunkt, kann die Mischung
Luft-Produkt eine leicht entzündliche und explosive Mischung werden.
Massnahmen treffen gegen elektrostatische Entladung.
Immer explosions-sichere und Elektrische Ausrüstung benutzen.
Funke-Arm Gerät gebrauchen.

Geeignetes Verpackungsmaterial : Rostfreier Stahl , Polyethylen , Polypropylen , Glas .

Nicht geeignetes Verpackungsmaterial : Leichte Metalle
(Aluminium , Zink), Gummi , Manche Kunststoffen .

7.3. Spezifische Endanwendungen

Für den identifizierten Verwendungen, siehe Unterabschnitt 1.2 und/oder Expositionsszenarien.

ABSCHNITT 8. Begrenzung und Überwachung der Exposition/Persönliche Schutzausrüstungen
8.1. Zu überwachende Parameter

* Berufsbedingte Expositionsgrenzen : Essigsäure ...% : Grenzwert (BE) : 10 ppm (25 mg/m³) (2014)
Essigsäure ...% : Kurze Zeitwert (BE) : 15 ppm (38 mg/m³) (2014)

Biologischen Grenzwerte : Bei Vorliegen der Daten werden diese aufgenommen.

DNELs : • Essigsäure ...% : Arbeiter, akut - lokale Effekte, einatmen : 25 mg/m³
• Essigsäure ...% : Arbeiter, langzeit - lokale Effekte, einatmen : 25 mg/m³
• Essigsäure ...% : Verbraucher, akut - lokale Effekte, einatmen : 25 mg/m³
• Essigsäure ...% : Verbraucher, langzeit - lokale Effekte, einatmen : 25 mg/m³

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ABSCHNITT 8. Begrenzung und Überwachung der Exposition/Persönliche Schutzausrüstungen

- PNECs
- : • Essigsäure ...% : Süßwasser : 3,058 mg/l
 - : • Essigsäure ...% : Salzwasser : 0,3058 mg/l
 - : • Essigsäure ...% : Süßwassersediment : 11,36 mg/kg
 - : • Essigsäure ...% : Salzwassersediment : 1,136 mg/kg
 - : • Essigsäure ...% : Boden : 0,478 mg/kg
 - : • Essigsäure ...% : Intermittierend Freisetzung : 30,58 mg/l
 - : • Essigsäure ...% : Wasserreinigungsinstallation : 85 mg/l

8.2. Begrenzung und Überwachung der Exposition

- Technische Massnahmen : Ventilation (Über den Boden), Lokale Absaugung .
- Persönliche Schutzmittel
- Atemschutz : CE-Geeignetes Atemschutzgerät für saure Gasen und Dämpfe (type E, gelb).
 - Hautschutz : Korrosionsbeständige Schutzkleidung.
 - * - Handschutz : Geeignete Materialien für Schutzhandschuhe (EN 374):
Die arbeitsplatzspezifische Eignung sollte mit den Schutzhandschuhherstellern abgeklärt werden.
- Material : Butylgummi .
- Dicke : 5 mm
- Durchbruchzeit : > 480'
 - Augen-/Gesichtsschutz : Anschliessende Sicherheitsgläser oder Gesichtsschutz.
 - * Begrenzung und Überwachung der Umweltexposition : Siehe Abschnitte 6, 7, 12 und 13.

ABSCHNITT 9. Physikalische und chemische Eigenschaften
9.1. Angaben zu den grundlegenden physikalischen und chemischen Eigenschaften

Siehe technisches Datenblatt für weitere Informationen.

- Physikalische Form (20°C) : Flüssigkeit .
- Aussicht/Farbe : Klar , Farblos .
- * Geruch : Essiggeruch .
 - * Geruchsschwelle : 0,074 ppm
 - * pH-Wert : < 2
 - * Schmelz-/Gefrierpunkt : -26 °C bis -7 °C
 - * Siedepunkt/Siedestrecke (1013 hPa) : 101 -107 °C
 - Flammpunkt : > 61 °C
 - Verdampfungsgeschwindigkeit : 0,97 (Butylacetat =1)
 - * Explosionsgrenzen in Luft : 4 -19,9 Vol.%
 - * Dampfdruck (20°C) : 1,0 - 1,5 kPa
 - * Relativer Dampfichte (Luft=1) : 2,1
 - * Relative Dichte der gesättigten Mischung Dampf/Luft (Luft=1) : 1,02
 - * Die relative Dichte (Wasser=1) : ca. 1,02
 - * Dichte (20°C) : 1,055 - 1,071 kg/l
 - Löslichkeit in Wasser : Völlig löslich .
 - Löslich in : Chloroform .
 - Mischbar mit : Ethanol , Diethylether , Aceton , Benzen .
 - Log P Oktanol/Wasser (20°C) : -0,2
 - * Zuendtemperatur : 485 °C
 - Minimum Entzündungsenergie : Es liegen keine Angaben vor.

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ABSCHNITT 9. Physikalische und chemische Eigenschaften (Fortsetzung)

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|-------------------------|--|
| Zersetzungstemperatur | : Nicht anwendbar. |
| * Viskosität (20°C) | : 2,043 - 2,547 mm ² /s (Kinematisch) |
| Explosive Eigenschaften | : Keine chemischen Gruppen mit explosive Eigenschaften zugeordnet . |
| Oxidationseigenschaften | : Keine chemischen Gruppen mit oxidierenden Eigenschaften zugeordnet . |

ABSCHNITT 10. Stabilität und Reaktivität
10.1. Reaktivität

Reaktivität : Reagiert heftig mit Oxidationsmitteln und Basen.

10.2. Chemische Stabilität

Stabilität : Stabil unter normalen Umständen .

10.3. Möglichkeit gefährlicher Reaktionen

Gefährliche Reaktionen : Die Substance entzündet sich beim Kontakt mit Kalium-tert-butanolat.
Schwere Reaktion möglich mit Acetaldehyd und Acetanhydrid .

10.4. Zu vermeidenden Bedingungen

Zu vermeidenden Zuständen : Hochtemperatur .

10.5. Unverträgliche Materialien

- | | |
|-----------------------------------|---|
| * Nicht in Verbindung bringen mit | : Oxidationsmittel , Laugen , Verschiedene Metalle (Aluminium , Zink) , Gummi , Manche Kunststoffen . |
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10.6. Gefährliche Zersetzungsprodukte

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|-----------------------------------|--------------------|
| * Gefährliche Zersetzungsprodukte | : Kohlstoffoxide . |
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ABSCHNITT 11. Toxikologische Angaben
11.1. Angaben zu toxikologischen Wirkungen

Akute Toxizität

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|------------------------------------|--|
| * - Einatmen | : Einatmen kann zu Lungenentzündung und/oder Lungenödem, aber erst nach Anzeichen von korrosiven Wirkung auf die Schleimhäute der Augen und/oder der oberen Atemwege.
Symptome umfassen: Schmerzlicher Kehle , Hust , Brandiges Gefühl , Tränen , Schwindel , Atemnot .
• Essigsäure ...% : LC50 (Ratte, Inhalation, 4 St) : 11,4 mg/l (Dampf; OECD-Leitsatz 403) |
| * - Hautkontakt | : Symptome umfassen: Rötung , Schmerzen , Ernstige Verätzungen , Blase .
• Essigsäure ...% : LD50 (Ratte, Dermal) : Es liegen keine Angaben vor. |
| * - Nahrungsaufnahme | : Zahnerosion kann auftreten
Symptome umfassen: Brandiges Gefühl , Schmerzlicher Kehle , Bauchkrämpfe , Durchfall , Bewusstlosigkeit .
• Essigsäure ...% : LD50 (Ratte, Oral) : 3310 mg/kg |
| * Atz-/Reizwirkung auf die Haut | : Hautkontakt kann zu Schäden Ekzem. Wiederholte Exposition gegenüber hohen Konzentrationen : Verdickung der Haut , Blackening der Hände . |
| Schwere Augenschädigung/-reizung | : Wiederholte Exposition gegenüber hohen Konzentrationen : Bindehautentzündung . |
| * Aspirationsgefahr | : Kann eine Erkrankung der Lungen verursachen.
Wiederholte Exposition gegenüber hohen Konzentrationen : Histopathologischen Veränderungen in den Atemwegen .
Aussetzung kan Asthmatische Reaktion senken. |
| Sensibilisierung der Atemwege/Haut | : Nicht sensibel . |

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ABSCHNITT 11. Toxikologische Angaben (Fortsetzung)

Karzinogenität	: Nicht als karcinogen klassifiziert .
Mutagenität	: Nicht als mutagen klassifiziert .
Reproduktionstoxizität	: Nicht für Reproduktionstoxizität klassifiziert .
Spezifische Zielorgan-Toxizität - einmaliger Exposition	: Beim Menschen : Nicht für Organtoxizität klassifiziert . Bei Tieren : Keine Effekten bekannt.
Spezifische Zielorgan-Toxizität - wiederholter Exposition	: Beim Menschen : Nicht für Organtoxizität klassifiziert . Bei Tieren : Reizung der Magen-Darm-Trakt .

ABSCHNITT 12. Umweltbezogene Angaben
12.1. Toxizität

* Ekotoxizität	: • Essigsäure ...% : LC50 (Fisch, 96 St) : 300,82 mg/l (Oncorhynchus mykiss) (OECD-Leitsatz 203) • Essigsäure ...% : CE50 (Alge, 72 St) : 300,82 mg/l (Desmodesmus subspicatus) (OECD-Leitsatz 201) • Essigsäure ...% : CE50 (Daphnia magna, 48 St) : 300,82 mg/l (OECD-Leitsatz 202)
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12.2. Persistenz und Abbaubarkeit

Persistenz und Abbaubarkeit	: • Essigsäure ...% : Persistenz und Abbaubarkeit : Leicht biologisch abbaubar .
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12.3. Bioakkumulationspotenzial

* Bioakkumulation	: • Essigsäure ...% : Bioakkumulation : Bioakkumulation ist unwahrscheinlich. .
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12.4. Mobilität im Boden

Mobilität	: • Essigsäure ...% : Mobilität : Low Adsorption im Boden.
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12.5. Ergebnisse der PBT- und vPvB-Beurteilung

Ergebnisse	: • Essigsäure ...% : PBT/vPvB : Nein
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12.6. Andere schädliche Wirkungen

Potenzial zur fotochemischen Ozonbildung	: Es liegen keine Angaben vor.
Potenzial zum Ozonabbau	: Es liegen keine Angaben vor.
Potenzial zur Störung der endokrinen Systeme	: Es liegen keine Angaben vor.
Potenzial zur Erwärmung der Erdatmosphäre	: Es liegen keine Angaben vor.

ABSCHNITT 13. Hinweise zur Entsorgung
13.1. Verfahren der Abfallbehandlung

Produktvernichtung	: Das Produkt muss vernichtet werden gemäss der lokale und internationale Gesetzgebung, durch ein gesetzlich erkannte und spezialisierte Firma.
Europäische Abfallstoffenliste	: XXXXXX - Europäischer Abfallproduktcode. Dieser Code wird auf der Grundlage von die gegenwärtigsten Anwendungen zugewiesen und kann nicht für Verunreinigungen repräsentativ sein, die am wirkungsvollen Gebrauch des Produktes entstanden wurden. Der Produzent der Vergeudung muß seinen Prozeß selbst auswerten und muß die passende überschüssige Kodierung bewilligen. Sehen Sie Entscheidung 2001/118/EG.
Behandlung der Verpackung	: Die gebrauchte Verpackung ist ausschliesslich für die Verpackung dieses Produktes zu benutzen. Nach Gebrauch die Verpackung sorgfältig ausleeren und abschliessen. Wenn es sich um Retourverpackung handelt, kann die leere Verpackung wieder am Lieferant angeboten werden.

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ABSCHNITT 14. Angaben zum Transport
14.1. UN-Nummer

UN Nr : 2790

14.2. Ordnungsgemäße UN-Versandbezeichnung

ADR/RID-Name : UN 2790 Essigsäure, Lösung, 8, II, (E)

ADN-Name : UN 2790 Essigsäure, Lösung, 8, II

IMDG-Name : UN 2790 Acetic acid, solution, 8, II

IATA-Name

14.3. Transportgefahrenklassen

Klasse : 8

14.4. Verpackungsgruppe

Verpackungstyp : II

14.5. Umweltgefahren

Umweltgefährlich : Nein

Meeresschadstoff : Nein

14.6. Besondere Vorsichtsmaßnahmen für den Verwender

Gefahrandeutung : 80

Gefahrsymbol(e) : 8

EmS-N° : F-A, S-B

14.7. Massengutbeforderung gemäß Anhang II des MARPOL-Übereinkommens und gemäß IBC-Code

Schiffstyp : 3

Verschmutzungskategorie : Z

ABSCHNITT 15. Rechtsvorschriften
15.1. Vorschriften zu Sicherheit, Gesundheits- und Umweltschutz/spezifische Rechtsvorschriften für den Stoff oder das Gemisch

Inventarisierungen : Australische Inventarisierung (AICS): Aufgenommen im Inventarisierung.
Kanadische Inventarisierung (DSL): Aufgenommen im Inventarisierung.
Chinesisches Inventarisierung (IECS): Aufgenommen im Inventarisierung.
Europäische Inventarisierung (EINECS): Aufgenommen im Inventarisierung.
Japanische Inventarisierung (ENCS): Aufgenommen im Inventarisierung.
Koreanische Inventarisierung (KECI): Aufgenommen im Inventarisierung.
Philippinische Inventarisierung (PICCS): Aufgenommen im Inventarisierung.
USA-Inventarisierung (TSCA): Aufgenommen im Inventarisierung.

NFPA-N° : 3-2-0

Einschlägigen EU Vorschrift(en) : Richtlinie 98/24/EG des Rates vom 7. April 1998 zum Schutz von Gesundheit und Sicherheit der Arbeitnehmer vor der Gefährdung durch chemische Arbeitsstoffe bei der Arbeit
Entscheidung 2001/118/EG der Kommission vom 16. Januar 2001 zur Änderung der Entscheidung 2000/532/EG über ein Abfallverzeichnis
Verordnung (EG) Nr. 1272/2008 des Europäischen Parlaments und des Rates vom 16. Dezember 2008 über die Einstufung, Kennzeichnung und Verpackung von Stoffen und Gemischen, zur Änderung und Aufhebung der Richtlinien 67/548/EWG und 1999/45/EG und zur Änderung der Verordnung (EG) Nr. 1907/2006
Verordnung (EU) Nr. 453/2010 der Kommission vom 20. Mai 2010 zur Änderung der Verordnung (EG) Nr. 1907/2006 des Europäischen Parlaments und des Rates zur Registrierung, Bewertung, Zulassung und Beschränkung chemischer Stoffe (Reach)

ESSIGSAEURE 50-80%
Code : 10067
ABSCHNITT 15. Rechtsvorschriften (Fortsetzung)

- * Die Beschränkungen in Anhang XVII der Verordnung (EG) Nr. 1907/2006 sind zu beachten.

Nationalen Vorschriften

- Deutschland : WGK : 1
- Niederlande : Wasserbeschwerlichkeit : B
Sanierungsanspannung : 5

15.2. Stoffsicherheitsbeurteilung

- * Eine Stoffsicherheitsbeurteilung wurde aus der Produkt durchgeführt.

ABSCHNITT 16. Sonstige Angaben

- * Dieses Sicherheitsdatenblatt ist aufgestellt worden gemäss der Verordnung (EG) Nr. 1907/2006.
Dieses Sicherheitsblatt ist ausschliesslich bestimmt für industriell/professionel Gebrauch.

* Änderung hinsichtlich voriger Revision.

- * Änderungen : Allgemeine Revision
- * Quelle der Daten : Die Angaben stützen sich auf den heutigen Stand unserer Kenntnisse (Produzent(en) , Chemiekarte)
Sehe auch auf der Adresse:
<http://apps.echa.europa.eu/registered/registered-sub.aspx#search>
- (EU)H-Hinweis(e) : H226 - Flüssigkeit und Dampf entzündbar.
H314 - Verursacht schwere Verätzungen der Haut und Augenschäden.
- * Liste der Abkürzungen und Akronyme : ADN (Accord européen relatif au transport international des marchandises Dangereuses par voie de Navigation intérieure) : Europäisches Übereinkommen über die internationale Beförderung gefährlicher Güter in der Binnenschifffahrt
ADR (Accord européen relatif au transport international des marchandises Dangereuses par Route) : Europäisches Übereinkommen über die internationale Beförderung gefährlicher Güter auf der Straße
CO : Kohlenstoffmonoxid
DNEL (Derived No Effect Level) : Grenzwert, unterhalb dessen der Stoff keine Wirkung ausübt
EC50 : mittlere Effektive Konzentration
EmS (Emergency Schedule) : den ersten Code verweist auf die einschlägigen Brandklasse und den zweite code verweist auf die einschlägigen Verschütten
Zeitplan
Flam. Liq. 3 : Entzündbare Flüssigkeiten - Kategorie 3
IATA (International Air Transport Association) : Übereinkommen über die internationale Beförderung gefährlicher Güter im Luftverkehr
IMDG (International Maritime Dangerous Goods code) : Internationalen Übereinkommens für Gefahrgutkennzeichnung für gefährliche Güter im Seeschiffsverkehr
LC50 : mittlere Letale Konzentration
LD50 : mittlere Letale Dosis
NFPA (National Fire Protection Association) oder Gefahrendiamant
NVIC : National Vergiftungen Information Zentrum
OECD (Organisation for Economic Cooperation and Development) : Organisation für wirtschaftliche Zusammenarbeit und Entwicklung
PBT : persistente, bioakkumulierbar und toxisch
PNEC (Predicted No Effect Concentration) : Konzentration unter die Exposition gegenüber einem Stoff ohne Wirkung
REACH : Registrierung, Bewertung, Zulassung und Beschränkung von Chemikalien
RID (Règlement concernant le transport International ferroviaire des marchandises Dangereuses) : internationalen Beförderung gefährlicher Güter im Schienenverkehr
SCL (Specific Concentration Limits) : spezifische Konzentrationsgrenzwerte

ESSIGSAEURE 50-80%

Code : 10067

ABSCHNITT 16. Sonstige Angaben (Fortsetzung)

Skin Corr. 1A : Hautätzend - Kategorie 1A
Skin Corr. 1B : Hautätzend - Kategorie 1B
GGM (Gewichteter Gleitender Mittelwert) : die durchschnittliche Exposition über einen bestimmten Zeitraum
WGK (Wassergefährdungsklasse)
vPvB : sehr persistent und sehr bioakkumulierbar

Diese Information ist unseres Wissens korrekt und vollständig am Daten der Ausgabe des Sicherheitsdatenblatts. Diese Information betrifft nur dieses Produkt und gibt keine Garantie auf der Qualität und vollständigkeit der Eigenschaften des Produkts, oder falls das Produkt zusammen mit anderen Produkten oder im einzigen anderen Prozess gebraucht wird. Es bleibt die Verantwortlichkeit des Benutzers sich zu sichern dass diese Information anwendbar und vollständig ist, bezüglich seinen Spezialgebrauch des Produkts. BRENNTAG übernimmt keine Verantwortung und lehnt Haftung für Verlust oder Schaden ab, die aus dem Gebrauch des Produkts entstehen könnten.

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No.	Short title	Main User Group (SU)	Sector of Use (SU)	Product Category (PC)	Process Category (PROC)	Environmental Release Category (ERC)	Article Category (AC)	Specified
1	Manufacture of substance	3	8, 9	NA	1, 2, 3, 4, 8a, 8b, 15	1, 4, 6a	NA	ES79
2	Use as an intermediate	3	8, 9	NA	1, 2, 3, 4, 8a, 8b, 15	6a	NA	ES12083
3	Distribution of substance	3	1, 2a, 2b, 4, 5, 6a, 6b, 7	NA	1, 2, 3, 4, 8a, 8b, 9, 15	1, 2	NA	ES8
4	Formulation & (re)packing of substances and mixtures	3	10	NA	1, 2, 3, 4, 5, 8a, 8b, 9, 14, 15	2	NA	ES2319
5	Use in Cleaning Agents	3	5, 6a, 6b	NA	2, 3, 4, 7, 8a, 8b, 10, 13	4	NA	ES2409
6	Use in Cleaning Agents	22	NA	NA	1, 2, 3, 4, 8a, 8b, 10, 11, 13	8a, 8d	NA	ES2411
7	Use in Cleaning Agents	21	NA	3, 4, 8, 9a, 9b, 9c, 24, 35, 38	NA	8a, 8d	NA	ES2608
8	Use in laboratories	3	10	NA	10, 15	4	NA	ES2466
9	Use in laboratories	22	NA	NA	10, 15	8a	NA	ES2470
10	Use as water treatment chemicals	3	8, 9	NA	1, 2, 3, 4, 8a, 8b, 15	1, 4	NA	ES2481
11	Use as water treatment chemicals	22	NA	NA	1, 2, 3, 4, 8a, 8b, 15	8f	NA	ES2483
12	Use in oil and gas field drilling and production operations	3	10	NA	1, 2, 3, 4, 8a, 8b, 15	1, 4	NA	ES2472
13	Use in agrochemicals	22	10	NA	1, 2, 3, 4, 8a, 8b, 15	8d	NA	ES96
14	Use in agrochemicals	21	NA	12, 27	NA	8a, 8d	NA	ES2490
15	Use in agrochemicals	3	10	NA	1, 2, 3, 4, 8a, 8b, 15	1	NA	ES12081

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1. Short title of Exposure Scenario 1: Manufacture of substance

Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Sectors of end-use	SU8: Manufacture of bulk, large scale chemicals (including petroleum products) SU9: Manufacture of fine chemicals
Process categories	PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities PROC15: Use as laboratory reagent
Environmental Release Categories	ERC1: Manufacture of substances ERC4: Industrial use of processing aids in processes and products, not becoming part of articles ERC6a: Industrial use resulting in manufacture of another substance (use of intermediates)

2.1 Contributing scenario controlling environmental exposure for: ERC1, ERC6a, ERC4

No exposure assessment presented for the environment, In the chemical safety assessment performed according to Article 14(3) in connection with Annex I section 3 (Environmental Hazard Assessment) and section 4 (PBT/vPvB Assessment) no hazard was Identified..
, Therefore according on REACH Annex I (5.0) an exposure estimation and risk characterisation is not necessary.

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC15

Product characteristics	Physical Form (at time of use)	liquid
	Vapour pressure	> 100 hPa
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently).	
Other operational conditions affecting workers exposure	Assumes use at not more than 20 °C above ambient temperature, unless stated differently.	
Technical conditions and measures to control dispersion from source towards the worker	Handle substance within a closed system.(PROC1, PROC2, PROC3, PROC4)	
	Handle in a fume cupboard or under extract ventilation.(PROC15)	
	Drain or remove substance from equipment prior to break-in or maintenance.(PROC8a, PROC8b)	
	Ensure material transfers are under containment or extract ventilation. Provide extraction ventilation at points where emissions occur.(PROC2, PROC3, PROC4)	
	Storage	Provide a good standard of general ventilation (not

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	Product sampling	less than 3 to 5 air changes per hour).(PROC1, PROC2)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN374.(PROC8a, PROC8b)	

3. Exposure estimation and reference to its source

Workers

Contributing Scenario	Specific conditions	Exposure routes	Level of Exposure	RCR
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When the recommended risk management measures (RMMs) and operational conditions (OCs) are observed, exposures are not expected to exceed the predicted PNECs and the resulting risk characterisation ratios are expected to be less than 1.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
Confirm that RMMs and OCs are as described or of equivalent efficiency

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

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1. Short title of Exposure Scenario 2: Use as an intermediate

Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Sectors of end-use	SU8: Manufacture of bulk, large scale chemicals (including petroleum products) SU9: Manufacture of fine chemicals
Process categories	PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities PROC15: Use as laboratory reagent
Environmental Release Categories	ERC6a: Industrial use resulting in manufacture of another substance (use of intermediates)

2.1 Contributing scenario controlling environmental exposure for: ERC6a

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC15

Product characteristics	Physical Form (at time of use)	liquid
	Vapour pressure	> 100 hPa
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently).	
Other operational conditions affecting workers exposure	Assumes use at not more than 20 °C above ambient temperature, unless stated differently.	
Technical conditions and measures to control dispersion from source towards the worker	Handle substance within a closed system.(PROC1, PROC2, PROC3, PROC4)	
	Handle in a fume cupboard or under extract ventilation.(PROC15)	
	Drain or remove substance from equipment prior to break-in or maintenance.(PROC8a, PROC8b)	
	Ensure material transfers are under containment or extract ventilation. Provide extraction ventilation at points where emissions occur.(PROC2, PROC3, PROC4)	
	Storage Product sampling	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).(PROC1, PROC2)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN374.(PROC8a, PROC8b)	

3. Exposure estimation and reference to its source

Workers

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Contributing Scenario	Specific conditions	Exposure routes	Level of Exposure	RCR
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When the recommended risk management measures (RMMs) and operational conditions (OCs) are observed, exposures are not expected to exceed the predicted PNECs and the resulting risk characterisation ratios are expected to be less than 1.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
Confirm that RMMs and OCs are as described or of equivalent efficiency

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

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1. Short title of Exposure Scenario 3: Distribution of substance

Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Sectors of end-use	SU1: Agriculture, forestry, fishery SU2a: Mining, (without offshore industries) SU2b: Offshore industries SU4: Manufacture of food products SU5: Manufacture of textiles, leather, fur SU6a: Manufacture of wood and wood products SU6b: Manufacture of pulp, paper and paper products SU7: Printing and reproduction of recorded media
Process categories	PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC15: Use as laboratory reagent
Environmental Release Categories	ERC1: Manufacture of substances ERC2: Formulation of preparations
Activity	Note: this Exposure Scenario is only relevant for an appropriated use according to the quality grade of the substance delivered

2.1 Contributing scenario controlling environmental exposure for: ERC1, ERC2

No exposure assessment presented for the environment, In the chemical safety assessment performed according to Article 14(3) in connection with Annex I section 3 (Environmental Hazard Assessment) and section 4 (PBT/vPvB Assessment) no hazard was Identified..
, Therefore according on REACH Annex I (5.0) an exposure estimation and risk characterisation is not necessary.

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC9, PROC15

Product characteristics	Physical Form (at time of use)	liquid
	Vapour pressure	> 100 hPa
	Assumes use at not more than 20°C above ambient temperature.	
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently).	
Technical conditions and measures to control dispersion from source towards the worker	Batch process with sample collection	Handle substance within a closed system. Provide a good standard of general ventilation (not

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		less than 3 to 5 air changes per hour). Avoid carrying out operation for more than 1 hour.(PROC4)
	General exposures (closed systems)	Provide extract ventilation to points where emissions occur.(PROC4)
	Process sampling	Sample via a closed loop or other system to avoid exposure.(PROC8b)
	Laboratory activities	Handle in a fume cupboard or under extract ventilation.(PROC15)
	Bulk transfers (closed systems)	Clear lines prior to de-coupling. Provide extract ventilation to points where emissions occur.(PROC8b)
	Bulk transfers (open systems)	Provide extract ventilation to points where emissions occur.(PROC8b)
	Drum and small package filling	Provide extract ventilation to points where emissions occur.(PROC9)
	Equipment cleaning and maintenance	Drain down system prior to equipment break-in or maintenance.(PROC8a, PROC8b)
	Storage with occasional controlled exposure	Store substance within a closed system. Locate bulk storage outdoors. or Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).(PROC2)
Conditions and measures related to personal protection, hygiene and health evaluation	Bulk transfers (closed systems)	or If above technical/organisational control measures are not feasible, then adopt following PPE: Wear a respirator conforming to EN140 with Type A filter or better. Wear suitable gloves tested to EN374.(PROC8b)
	Bulk transfers (open systems)	If above technical/organisational control measures are not feasible, then adopt following PPE: Wear a respirator conforming to EN140 with Type A filter or better. Wear suitable gloves tested to EN374.(PROC8b)
	Equipment cleaning and maintenance	Wear suitable gloves tested to EN374.(PROC8a, PROC8b)

3. Exposure estimation and reference to its source

Workers

ECETOC TRA Version 2 with modifications has been used. When the recommended risk management measures (RMMs) and operational conditions (OCs) are observed, exposures are not expected to exceed the predicted PNECs and the resulting risk characterisation ratios are expected to be less than 1.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the

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Exposure Scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

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1. Short title of Exposure Scenario 4: Formulation & (re)packing of substances and mixtures

Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Sectors of end-use	SU 10: Formulation [mixing] of preparations and/ or re-packaging (excluding alloys)
Process categories	PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact) PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC14: Production of preparations or articles by tableting, compression, extrusion, pelletisation PROC15: Use as laboratory reagent
Environmental Release Categories	ERC2: Formulation of preparations

2.1 Contributing scenario controlling environmental exposure for: ERC2

In the chemical safety assessment performed according to Article 14(3) in connection with Annex I section 3 (Environmental Hazard Assessment) and section 4 (PBT/vPvB Assessment) no hazard was Identified., Therefore according on REACH Annex I (5.0) an exposure estimation and risk characterisation is not necessary.

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC14, PROC15

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently).
	Physical Form (at time of use)	liquid
	Vapour pressure	> 100 hPa
	Assumes use at not more than 20°C above ambient temperature.	
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently).	
Other operational conditions affecting workers exposure	Assumes a good basic standard of occupational hygiene is implemented.	
Technical conditions and measures to control dispersion from source towards the worker	General exposures (closed systems)	Handle substance within a closed system.(PROC1, PROC2)

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General exposures (closed systems) with sample collection with occasional controlled exposure	Handle substance within a closed system. Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).(PROC2)
General exposures (closed systems) Use in contained batch processes	Handle substance within a closed system. Provide extract ventilation to points where emissions occur.(PROC3)
General exposures (open systems) Batch process with sample collection with potential for aerosol generation	Provide extract ventilation to points where emissions occur.(PROC4)
Batch processes at elevated temperatures	Ensure material transfers are under containment or extract ventilation. Avoid carrying out operation for more than 1 hour.(PROC3)
Process sampling	Sample via a closed loop or other system to avoid exposure.(PROC8b)
Laboratory activities	Handle in a fume cupboard or under extract ventilation.(PROC15)
Bulk transfers	Ensure material transfers are under containment or extract ventilation.(PROC4, PROC8a, PROC8b)
Mixing operations (open systems) with potential for aerosol generation	Provide extract ventilation to points where emissions occur.(PROC4, PROC5)
Manual Transfer from/pouring from containers	Provide extract ventilation to points where emissions occur.(PROC8a)
Drum/batch transfers	Provide extract ventilation to points where emissions occur.(PROC3, PROC8a, PROC8b, PROC9)
Production of preparations or articles by tableting, compression, extrusion, pelletisation	Provide extract ventilation to points where emissions occur.(PROC14)
Drum and small package filling	Ensure material transfers are under containment or extract ventilation.(PROC9)
Equipment cleaning and maintenance	Drain down system prior to equipment break-in or maintenance.(PROC8a, PROC8b)
Storage Product sampling	Locate bulk storage outdoors. or

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		Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).(PROC1, PROC2, PROC8b)
Conditions and measures related to personal protection, hygiene and health evaluation	Equipment cleaning and maintenance	Wear suitable gloves tested to EN374.(PROC8a, PROC8b)

3. Exposure estimation and reference to its source

Workers

When the recommended risk management measures (RMMs) and operational conditions (OCs) are observed, exposures are not expected to exceed the predicted PNECs and the resulting risk characterisation ratios are expected to be less than 1.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

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1. Short title of Exposure Scenario 5: Use in Cleaning Agents

Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Sectors of end-use	SU5: Manufacture of textiles, leather, fur SU6a: Manufacture of wood and wood products SU6b: Manufacture of pulp, paper and paper products
Process categories	PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC7: Industrial spraying PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities PROC10: Roller application or brushing PROC13: Treatment of articles by dipping and pouring
Environmental Release Categories	ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

2.1 Contributing scenario controlling environmental exposure for: ERC4

In the chemical safety assessment performed according to Article 14(3) in connection with Annex I section 3 (Environmental Hazard Assessment) and section 4 (PBT/vPvB Assessment) no hazard was Identified., Therefore according on REACH Annex I (5.0) an exposure estimation and risk characterisation is not necessary.

2.2 Contributing scenario controlling worker exposure for: PROC2, PROC3, PROC4, PROC7, PROC8a, PROC8b, PROC10, PROC13

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently).
	Physical Form (at time of use)	liquid
	Vapour pressure	> 100 hPa
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently).	
Other operational conditions affecting workers exposure	Assumes use at not more than 20 °C above ambient temperature, unless stated differently., Assumes a good basic standard of occupational hygiene is implemented.	
	Limit the substance content in the product to 5 %.(PROC7, PROC10)	
Technical conditions and measures to control dispersion from source towards the worker	Bulk transfers	Ensure material transfers are under containment or extract ventilation.(PROC8a, PROC8b)
	Automated process with (semi) closed systems	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

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Drum/batch transfers Use in contained systems	Avoid carrying out operation for more than 1 hour.(PROC8a, PROC8b)
Application of cleaning products in closed systems	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).(PROC2, PROC4)
Filling / preparation of equipment from drums or containers Dedicated facility	Ensure material transfers are under containment or extract ventilation.(PROC8b)
Use in contained systems Treatment by heating	Ensure material transfers are under containment or extract ventilation. Avoid carrying out operation for more than 4 hours.(PROC4)
Degreasing small objects in cleaning station	Provide extract ventilation to points where emissions occur.(PROC13)
Cleaning with low-pressure washers	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Avoid carrying out operation for more than 4 hours.(PROC10)
Cleaning with high pressure washers	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). or Ensure operation is undertaken outdoors. Avoid carrying out operation for more than 1 hour.(PROC7)
Manual Surfaces cleaning No spraying	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). or Ensure operation is undertaken outdoors. Avoid carrying out operation for more than 4 hours.(PROC10)
Equipment cleaning and maintenance	Drain down system prior to equipment break-in or maintenance.(PROC8a, PROC8b)
Storage with occasional controlled exposure	Locate bulk storage outdoors. or Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).
Conditions and measures related to personal protection, hygiene and health evaluation	Equipment cleaning and maintenance Wear suitable gloves tested to EN374.(PROC8a, PROC8b)

3. Exposure estimation and reference to its source

Workers

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When the recommended risk management measures (RMMs) and operational conditions (OCs) are observed, exposures are not expected to exceed the predicted PNECs and the resulting risk characterisation ratios are expected to be less than 1.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

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1. Short title of Exposure Scenario 6: Use in Cleaning Agents

Main User Groups	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Process categories	PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities PROC10: Roller application or brushing PROC11: Non industrial spraying PROC13: Treatment of articles by dipping and pouring
Environmental Release Categories	ERC8a: Wide dispersive indoor use of processing aids in open systems ERC8d: Wide dispersive outdoor use of processing aids in open systems

2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8d

In the chemical safety assessment performed according to Article 14(3) in connection with Annex I section 3 (Environmental Hazard Assessment) and section 4 (PBT/vPvB Assessment) no hazard was Identified., Therefore according on REACH Annex I (5.0) an exposure estimation and risk characterisation is not necessary.

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC10, PROC11, PROC13

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently).
	Physical Form (at time of use)	liquid
	Vapour pressure	> 100 hPa
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently).	
Other operational conditions affecting workers exposure	Assumes use at not more than 20 °C above ambient temperature, unless stated differently., Assumes a good basic standard of occupational hygiene is implemented.	
	Limit the substance content in the mixture to 25 %.(PROC2, PROC4, PROC8a, PROC8b)	
	Limit the substance content in the product to 5 %.(PROC10, PROC11, PROC13)	
Technical conditions and measures to control dispersion from source towards the worker	Filling / preparation of equipment from drums or containers Dedicated facility	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).(PROC8b)

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Automated process with (semi) closed systems Use in contained systems	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).(PROC2)
Automated process with (semi) closed systems Use in contained systems Drum/batch transfers	Avoid carrying out operation for more than 4 hours.(PROC2, PROC3)
Semi-automated process (e.g.: Semi-automatic application of floor care and maintenance products)	Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour).(PROC4)
Filling / preparation of equipment from drums or containers	Ensure operation is undertaken outdoors. Avoid carrying out operation for more than 1 hour.(PROC8a, PROC8b)
Manual cleaning Dipping, immersion and pouring	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).(PROC13)
Cleaning with low-pressure washers Rolling, Brushing No spraying	Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour).(PROC10)
Cleaning with high pressure washers Spraying Outdoor.	Ensure operation is undertaken outdoors.(PROC11)
Cleaning with high pressure washers Spraying Indoor.	Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour).(PROC11)
Manual Surfaces cleaning Spraying	Ensure operation is undertaken outdoors. or Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Avoid carrying out operation for more than 4 hours.(PROC10)
Ad hoc manual application via trigger sprays, dipping, etc	Provide extract ventilation to points where emissions occur.(PROC10)
Ad hoc manual application via trigger sprays, dipping, etc	Ensure operation is undertaken outdoors. or Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Avoid carrying out operation for more than 4 hours.(PROC10)

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	cleaning	Provide extract ventilation to points where emissions occur.(PROC4)
	Equipment cleaning and maintenance	Drain down and flush system prior to equipment opening or maintenance. Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).(PROC8a, PROC8b)
	Storage with occasional controlled exposure	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). or Ensure operation is undertaken outdoors.(PROC2)
Organisational measures to prevent /limit releases, dispersion and exposure	Filling / preparation of equipment from drums or containers	Provide basic employee training to prevent/minimize exposures(PROC8a, PROC8b)
	Cleaning with high pressure washers Spraying Outdoor.	Provide basic employee training to prevent/minimize exposures(PROC11)
Conditions and measures related to personal protection, hygiene and health evaluation	Filling / preparation of equipment from drums or containers Dedicated facility	Wear suitable gloves tested to EN374.(PROC8b)
	Automated process with (semi) closed systems Use in contained systems	Wear suitable gloves tested to EN374.(PROC2)
	Automated process with (semi) closed systems Use in contained systems Drum/batch transfers	Wear suitable gloves tested to EN374.(PROC2, PROC3)
	Manual cleaning Dipping, immersion and pouring	Wear suitable gloves tested to EN374.(PROC13)
	Cleaning with low-pressure washers Rolling, Brushing No spraying	Wear suitable gloves tested to EN374.(PROC10)
	Cleaning with high pressure washers Spraying Outdoor.	Wear a respirator conforming to EN140 with Type A filter or better.(PROC11)
	Cleaning with high pressure washers Spraying Indoor.	Wear a respirator conforming to EN140 with Type A filter or better. Wear suitable gloves tested to EN374.(PROC11)
	Manual	Wear suitable gloves tested to EN374.(PROC10)

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	Surfaces cleaning Spraying	
	Ad hoc manual application via trigger sprays, dipping, etc	Wear suitable gloves tested to EN374.(PROC10)
	Equipment cleaning and maintenance	Wear suitable gloves tested to EN374.(PROC8a, PROC8b)

2.3 Contributing scenario controlling worker exposure for: PROC4

Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations up to 5%
	Physical Form (at time of use)	liquid
	Vapour pressure	> 100 hPa
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently).	
Other operational conditions affecting workers exposure	Assumes use at not more than 20 °C above ambient temperature, unless stated differently.	
Technical conditions and measures to control dispersion from source towards the worker	Application of cleaning products in closed systems Outdoor.	Ensure operation is undertaken outdoors.(PROC4)

3. Exposure estimation and reference to its source

Workers

When the recommended risk management measures (RMMs) and operational conditions (OCs) are observed, exposures are not expected to exceed the predicted PNECs and the resulting risk characterisation ratios are expected to be less than 1.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

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1. Short title of Exposure Scenario 7: Use in Cleaning Agents

Main User Groups	SU 21: Consumer uses: Private households (= general public = consumers)
Chemical product category	PC3: Air care products PC4: Anti-Freeze and de-icing products PC8: Biocidal products (e.g. Disinfectants, pest control) PC9a: Coatings and paints, thinners, paint removers PC9b: Fillers, putties, plasters, modelling clay PC9c: Finger paints PC24: Lubricants, greases, release products PC35: Washing and cleaning products (including solvent based products) PC38: Welding and soldering products (with flux coatings or flux cores.), flux products
Environmental Release Categories	ERC8a: Wide dispersive indoor use of processing aids in open systems ERC8d: Wide dispersive outdoor use of processing aids in open systems

2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8d

In the chemical safety assessment performed according to Article 14(3) in connection with Annex I section 3 (Environmental Hazard Assessment) and section 4 (PBT/vPvB Assessment) no hazard was Identified., Therefore according on REACH Annex I (5.0) an exposure estimation and risk characterisation is not necessary.

2.2 Contributing scenario controlling consumer exposure for: PC3: Aircare, instant action (aerosol sprays)

Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations up to 50%
	Physical Form (at time of use)	spray aerosol
Amount used	Amount used per event	0,1 g
Frequency and duration of use	Frequency of use	365 days/year
	Frequency of use	4 Times per day
	Exposure duration per event	15 min
Other given operational conditions affecting consumers exposure	Room size	20 m3
	Covers use at ambient temperatures., Covers use under typical household ventilation.	
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	No specific risk management measure identified beyond those operational conditions stated.	

2.3 Contributing scenario controlling consumer exposure for: PC3: Aircare, continuous action (solid & liquid)

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Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations up to 10%
	Physical Form (at time of use)	solid, liquid
Amount used	Amount used per event	0,48 g
Frequency and duration of use	Frequency of use	365 days/year
	Frequency of use	1 Times per day
	Frequency of use	8 Hours/event
Human factors not influenced by risk management	Exposed skin surface	36 cm ²
Other given operational conditions affecting consumers exposure	Room size	20 m ³
	Covers use at ambient temperatures., Covers use under typical household ventilation.	
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	No specific risk management measure identified beyond those operational conditions stated.	

2.4 Contributing scenario controlling consumer exposure for: PC4: Washing car window

Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations up to 1%
Amount used	Amount used per event	0,5 g
Frequency and duration of use	Frequency of use	365 days/year
	Frequency of use	1 Times per day
	Exposure duration per event	1,2 min
Other given operational conditions affecting consumers exposure	Room size	34 m ³
	Covers use in a one car garage (34m ³) under typical ventilation.Covers use at ambient temperatures.	
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	No specific risk management measure identified beyond those operational conditions stated.	

2.5 Contributing scenario controlling consumer exposure for: PC4: Pouring into radiator

Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations up to 10%
Amount used	Amount used per event	2000 g(PC4)
Frequency and duration of use	Frequency of use	365 days/year
	Frequency of use	1 Times per day

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	Exposure duration per event	7 min
Human factors not influenced by risk management	Exposed skin surface	428 cm ²
Other given operational conditions affecting consumers exposure	Room size	34 m ³ (PC4 Washing car window)
	Covers use in a one car garage (34m ³) under typical ventilation.(PC4 Washing car window)	
	Covers use at ambient temperatures.	
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	No specific risk management measure identified beyond those operational conditions stated.	

2.6 Contributing scenario controlling consumer exposure for: PC4: Lock de-icer

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 25 %.
Amount used	Amount used per event	4 g
Frequency and duration of use	Frequency of use	365 days/year
	Frequency of use	1 Times per day
	Exposure duration per event	15 min
Human factors not influenced by risk management	Exposed skin surface	215 cm ²
Other given operational conditions affecting consumers exposure	Room size	34 m ³ (PC4 Washing car window)
	Covers use in a one car garage (34m ³) under typical ventilation.(PC4 Washing car window)	
	Covers use at ambient temperatures.	
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	No specific risk management measure identified beyond those operational conditions stated.	

2.7 Contributing scenario controlling consumer exposure for: PC8: Laundry and dish washing products

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 5 %.
Amount used	Amount used per event	15 g
Frequency and duration of use	Frequency of use	365 days/year
	Frequency of use	1 Times per day
	Exposure duration per event	30 min
Human factors not influenced by risk management	Exposed skin surface	858 cm ²

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Other given operational conditions affecting consumers exposure	Room size	20 m3
	Covers use under typical household ventilation., Covers use at ambient temperatures.	
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	No specific risk management measure identified beyond those operational conditions stated.	

2.8 Contributing scenario controlling consumer exposure for: PC8: Cleaners, liquids

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 5 %.
Amount used	Amount used per event	27 g
Frequency and duration of use	Frequency of use	128 days/year
	Frequency of use	1 Times per day
	Exposure duration per event	20 min
Human factors not influenced by risk management	Exposed skin surface	858 cm ²
Other given operational conditions affecting consumers exposure	Room size	20 m3
	Covers use under typical household ventilation., Covers use at ambient temperatures.	
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	No specific risk management measure identified beyond those operational conditions stated.	

2.9 Contributing scenario controlling consumer exposure for: PC8: Cleaners, trigger sprays

Product characteristics	Concentration of the Substance in Mixture/Article	Concentration of substance in product : 0% - 2%
Amount used	Amount used per event	35 g
Frequency and duration of use	Frequency of use	128 days/year
	Frequency of use	1 Times per day
	Exposure duration per event	10 min
Human factors not influenced by risk management	Exposed skin surface	428 cm ²
Other given operational conditions affecting consumers exposure	Room size	20 m3
	Covers use under typical household ventilation., Covers use at ambient temperatures.	
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	No specific risk management measure identified beyond those operational conditions stated.	

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2.10 Contributing scenario controlling consumer exposure for: PC9a: Waterborne latex wall paint

Product characteristics	Concentration of the Substance in Mixture/Article	Concentration of substance in product : 0% - 2%
Amount used	Amount used per event	2760 g
Frequency and duration of use	Frequency of use	4 days/year
	Frequency of use	1 Times per day
	Exposure duration per event	132 min
Human factors not influenced by risk management	Exposed skin surface	428 cm ²
Other given operational conditions affecting consumers exposure	Room size	20 m3
	Covers use under typical household ventilation., Covers use at ambient temperatures.	
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	No specific risk management measure identified beyond those operational conditions stated.	

2.11 Contributing scenario controlling consumer exposure for: PC9a: Solvent rich, high solid, water borne paint

Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations up to 12%
Amount used	Amount used per event	744 g
Frequency and duration of use	Frequency of use	4 days/year
	Frequency of use	1 Times per day
	Exposure duration per event	132 min
Human factors not influenced by risk management	Exposed skin surface	428 cm ²
Other given operational conditions affecting consumers exposure	Room size	20 m3
	Covers use under typical household ventilation., Covers use at ambient temperatures.	
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	No specific risk management measure identified beyond those operational conditions stated.	

2.12 Contributing scenario controlling consumer exposure for: PC9a: Aerosol spray can

Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations up to 0,5%
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Amount used	Amount used per event	215 g
Frequency and duration of use	Frequency of use	2 days/year
	Frequency of use	1 Times per day
	Exposure duration per event	20 min
Other given operational conditions affecting consumers exposure	Room size	34 m3
	Covers use in a one car garage (34m ³) under typical ventilation., Covers use at ambient temperatures.	
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	No specific risk management measure identified beyond those operational conditions stated.	

2.13 Contributing scenario controlling consumer exposure for: PC9a: Removers (paint-, glue-, wall paper-, sealant-remover)

Product characteristics	Concentration of the Substance in Mixture/Article	Concentration of substance in product: 0% - 17%
Amount used	Amount used per event	491 g
Frequency and duration of use	Frequency of use	3 days/year
	Frequency of use	1 Times per day
	Exposure duration per event	120 min
Human factors not influenced by risk management	Exposed skin surface	856 cm ²
Other given operational conditions affecting consumers exposure	Room size	20 m3
	Covers use under typical household ventilation., Covers use at ambient temperatures.	
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	No specific risk management measure identified beyond those operational conditions stated.	

2.14 Contributing scenario controlling consumer exposure for: PC9b: Fillers and putty

Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations up to 2%
Amount used	Amount used per event	85 g
Frequency and duration of use	Frequency of use	12 days/year
	Frequency of use	1 Times per day
	Exposure duration per event	240 min
Human factors not influenced by risk management	Exposed skin surface	38 cm ²

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Other given operational conditions affecting consumers exposure	Room size	20 m3
	Covers use under typical household ventilation., Covers use at ambient temperatures.	
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	No specific risk management measure identified beyond those operational conditions stated.	

2.15 Contributing scenario controlling consumer exposure for: PC9b: Plasters and floor equalizers

Product characteristics	Concentration of the Substance in Mixture/Article	Concentration of substance in product: 0% - 0,6%
Amount used	Amount used per event	13800 g
Frequency and duration of use	Frequency of use	12 days/year
	Frequency of use	1 Times per day
	Exposure duration per event	120 min
Human factors not influenced by risk management	Exposed skin surface	858 cm ²
Other given operational conditions affecting consumers exposure	Room size	20 m3
	Covers use under typical household ventilation., Covers use at ambient temperatures.	
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	No specific risk management measure identified beyond those operational conditions stated.	

2.16 Contributing scenario controlling consumer exposure for: PC9b: Modelling clay

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 1 %.
Amount used	Amount used per event	1 g
	(swallowed)	
Frequency and duration of use	Frequency of use	365 days/year
	Frequency of use	1 Times per day
Human factors not influenced by risk management	Exposed skin surface	255 cm ²
Other given operational conditions affecting consumers exposure	Room size	20 m3
	Covers use under typical household ventilation., Covers use at ambient temperatures.	
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	No specific risk management measure identified beyond those operational conditions stated.	

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2.17 Contributing scenario controlling consumer exposure for: PC9c: Finger paints

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 1 %.
Amount used	Amount used per event (swallowed)	1,35 g
Frequency and duration of use	Frequency of use	365 days/year
	Frequency of use	1 Times per day
Human factors not influenced by risk management	Exposed skin surface	255 cm ²
Other given operational conditions affecting consumers exposure	Room size	20 m ³
	Covers use under typical household ventilation., Covers use at ambient temperatures.	
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	No specific risk management measure identified beyond those operational conditions stated.	

2.18 Contributing scenario controlling consumer exposure for: PC24: Liquids

Product characteristics	Concentration of the Substance in Mixture/Article	Concentration of substance in product : 0% - 80%
Amount used	Amount used per event (swallowed)	2200 g
Frequency and duration of use	Frequency of use	4 days/year
	Frequency of use	1 Times per day
Human factors not influenced by risk management	Exposed skin surface	468 cm ²
Other given operational conditions affecting consumers exposure	Room size	34 m ³
	Covers use in a one car garage (34m ³) under typical ventilation., Covers use at ambient temperatures.	
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	No specific risk management measure identified beyond those operational conditions stated.	

2.19 Contributing scenario controlling consumer exposure for: PC24: Pastes

Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations up to 20%
Amount used	Amount used per event	34 g
Frequency and duration of use	Frequency of use	10 days/year
	Frequency of use	1 Times per day

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Human factors not influenced by risk management	Exposed skin surface	468 cm ²
Other given operational conditions affecting consumers exposure	Room size	34 m ³
	Covers use in a one car garage (34m ³) under typical ventilation., Covers use at ambient temperatures.	
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	No specific risk management measure identified beyond those operational conditions stated.	

2.20 Contributing scenario controlling consumer exposure for: PC24: Sprays

Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations up to 20%
Amount used	Amount used per event	34 g
Frequency and duration of use	Frequency of use	6 days/year
	Frequency of use	1 Times per day
	Exposure duration per event	10 min
Human factors not influenced by risk management	Exposed skin surface	468 cm ²
Other given operational conditions affecting consumers exposure	Room size	20 m ³
	Covers use under typical household ventilation., Covers use at ambient temperatures.	
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	No specific risk management measure identified beyond those operational conditions stated.	

2.21 Contributing scenario controlling consumer exposure for: PC35: Laundry and dish washing products

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 5 %.
Amount used	Amount used per event	15 g
Frequency and duration of use	Frequency of use	365 days/year
	Frequency of use	1 Times per day
	Exposure duration per event	30 min
Human factors not influenced by risk management	Exposed skin surface	858 cm ²
Other given operational conditions affecting consumers exposure	Room size	20 m ³
	Covers use under typical household ventilation., Covers use at ambient temperatures.	
Conditions and measures related	No specific risk management measure identified beyond those operational	

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to protection of consumer (e.g. behavioural advice, personal protection and hygiene)

conditions stated.

2.22 Contributing scenario controlling consumer exposure for: PC35: Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners)

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 5 %.
Amount used	Amount used per event	27 g
Frequency and duration of use	Frequency of use	128 days/year
	Frequency of use	1 Times per day
	Exposure duration per event	20 min
Human factors not influenced by risk management	Exposed skin surface	858 cm ²
Other given operational conditions affecting consumers exposure	Room size	20 m ³
	Covers use under typical household ventilation., Covers use at ambient temperatures.	
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	No specific risk management measure identified beyond those operational conditions stated.	

2.23 Contributing scenario controlling consumer exposure for: PC35: Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners)

Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations up to 1,5%
Amount used	Amount used per event	35 g
Frequency and duration of use	Frequency of use	128 days/year
	Frequency of use	1 Times per day
	Exposure duration per event	10 min
Human factors not influenced by risk management	Exposed skin surface	428 cm ²
Other given operational conditions affecting consumers exposure	Room size	20 m ³
	Covers use under typical household ventilation., Covers use at ambient temperatures.	
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	No specific risk management measure identified beyond those operational conditions stated.	

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2.24 Contributing scenario controlling consumer exposure for: PC38

Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations up to 20%
Amount used	Amount used per event	12 g
Frequency and duration of use	Frequency of use	365 days/year
	Frequency of use	1 Times per day
	Exposure duration per event	60 min
Other given operational conditions affecting consumers exposure	Room size	20 m3
	Covers use under typical household ventilation., Covers use at ambient temperatures.	
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	No specific risk management measure identified beyond those operational conditions stated.	

3. Exposure estimation and reference to its source

Consumers

When the recommended risk management measures (RMMs) and operational conditions (OCs) are observed, exposures are not expected to exceed the predicted PNECs and the resulting risk characterisation ratios are expected to be less than 1.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

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1. Short title of Exposure Scenario 8: Use in laboratories

Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Sectors of end-use	SU 10: Formulation [mixing] of preparations and/ or re-packaging (excluding alloys)
Process categories	PROC10: Roller application or brushing PROC15: Use as laboratory reagent
Environmental Release Categories	ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

2.1 Contributing scenario controlling environmental exposure for: ERC4

In the chemical safety assessment performed according to Article 14(3) in connection with Annex I section 3 (Environmental Hazard Assessment) and section 4 (PBT/vPvB Assessment) no hazard was Identified., Therefore according on REACH Annex I (5.0) an exposure estimation and risk characterisation is not necessary.

2.2 Contributing scenario controlling worker exposure for: PROC10, PROC15

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently).
	Physical Form (at time of use)	liquid
	Vapour pressure	> 100 hPa
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently).	
Other operational conditions affecting workers exposure	Assumes use at not more than 20 °C above ambient temperature, unless stated differently., Assumes a good basic standard of occupational hygiene is implemented.	
Technical conditions and measures to control dispersion from source towards the worker	Laboratory activities	Handle in a fume cupboard or under extract ventilation.(PROC15)
	cleaning Rolling, Brushing Vessel and container cleaning with local exhaust ventilation	Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour). Avoid carrying out operation for more than 1 hour.(PROC10)
Conditions and measures related to personal protection, hygiene and health evaluation	cleaning Rolling, Brushing Vessel and container cleaning with local exhaust ventilation	Wear suitable gloves tested to EN374.(PROC10)

3. Exposure estimation and reference to its source

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Workers

When the recommended risk management measures (RMMS) and operational conditions (OCs) are observed, exposures are not expected to exceed the predicted PNECs and the resulting risk characterisation ratios are expected to be less than 1.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

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1. Short title of Exposure Scenario 9: Use in laboratories

Main User Groups	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Process categories	PROC10: Roller application or brushing PROC15: Use as laboratory reagent
Environmental Release Categories	ERC8a: Wide dispersive indoor use of processing aids in open systems

2.1 Contributing scenario controlling environmental exposure for: ERC8a

In the chemical safety assessment performed according to Article 14(3) in connection with Annex I section 3 (Environmental Hazard Assessment) and section 4 (PBT/vPvB Assessment) no hazard was Identified., Therefore according on REACH Annex I (5.0) an exposure estimation and risk characterisation is not necessary.

2.2 Contributing scenario controlling worker exposure for: PROC10, PROC15

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently).
	Physical Form (at time of use)	liquid
	Vapour pressure	> 100 hPa
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently).	
Other operational conditions affecting workers exposure	Assumes use at not more than 20 °C above ambient temperature, unless stated differently.	
Technical conditions and measures to control dispersion from source towards the worker	Laboratory activities	Handle in a fume cupboard or under extract ventilation.(PROC15)
	cleaning Rolling, Brushing Vessel and container cleaning with local exhaust ventilation	Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour). Avoid carrying out operation for more than 1 hour.(PROC10)
Conditions and measures related to personal protection, hygiene and health evaluation	cleaning Rolling, Brushing Vessel and container cleaning with local exhaust ventilation	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.(PROC10)

3. Exposure estimation and reference to its source

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When the recommended risk management measures (RMMs) and operational conditions (OCs) are observed, exposures are not expected to exceed the predicted PNECs and the resulting risk characterisation ratios are expected to be less than 1.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

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1. Short title of Exposure Scenario 10: Use as water treatment chemicals

Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Sectors of end-use	SU8: Manufacture of bulk, large scale chemicals (including petroleum products) SU9: Manufacture of fine chemicals
Process categories	PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities PROC15: Use as laboratory reagent
Environmental Release Categories	ERC1: Manufacture of substances ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

2.1 Contributing scenario controlling environmental exposure for: ERC1, ERC4

In the chemical safety assessment performed according to Article 14(3) in connection with Annex I section 3 (Environmental Hazard Assessment) and section 4 (PBT/vPvB Assessment) no hazard was Identified., Therefore according on REACH Annex I (5.0) an exposure estimation and risk characterisation is not necessary.

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC15

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently).
	Physical Form (at time of use)	liquid
	Vapour pressure	> 100 hPa
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently).	
Other operational conditions affecting workers exposure	Assumes use at not more than 20 °C above ambient temperature, unless stated differently.	
	Limit the substance content in the mixture to 25 %.(PROC4)	
Technical conditions and measures to control dispersion from source towards the worker	Bulk transfers	Ensure material transfers are under containment or extract ventilation. Avoid carrying out operation for more than 4 hours.(PROC8a, PROC8b)
	Pouring from small containers	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

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	Treatment by dipping and pouring	Provide extract ventilation to points where emissions occur.(PROC8a)
	General exposures (open systems)	Ensure operation is undertaken outdoors. or Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Avoid carrying out operation for more than 4 hours.(PROC4)
	Equipment cleaning and maintenance	Ensure operation is undertaken outdoors. or Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Drain down system prior to equipment break-in or maintenance.(PROC8a)
	Drum/batch transfers Dedicated facility	Use drum pumps. Avoid spillage when withdrawing pump. Avoid carrying out operation for more than 4 hours.(PROC8b)
	General exposures (closed systems) Batch process	Ensure operation is undertaken outdoors. or Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Avoid carrying out operation for more than 1 hour.(PROC3)
	Storage	Store substance within a closed system.(PROC1, PROC2)
Conditions and measures related to personal protection, hygiene and health evaluation	Pouring from small containers	Wear suitable gloves tested to EN374.(PROC8a)
	General exposures (open systems)	Wear suitable gloves tested to EN374.(PROC4)
	Equipment cleaning and maintenance	Wear suitable gloves tested to EN374.(PROC8a)
	Drum/batch transfers Dedicated facility	Wear suitable gloves tested to EN374.(PROC8b)

3. Exposure estimation and reference to its source

Workers

When the recommended risk management measures (RMMs) and operational conditions (OCs) are observed, exposures are not expected to exceed the predicted PNECs and the resulting risk characterisation ratios are expected to be less than 1.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may

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be necessary to define appropriate site-specific risk management measures.
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

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1. Short title of Exposure Scenario 11: Use as water treatment chemicals

Main User Groups	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Process categories	PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities PROC15: Use as laboratory reagent
Environmental Release Categories	ERC8f: Wide dispersive outdoor use resulting in inclusion into or onto a matrix

2.1 Contributing scenario controlling environmental exposure for: ERC8f

In the chemical safety assessment performed according to Article 14(3) in connection with Annex I section 3 (Environmental Hazard Assessment) and section 4 (PBT/vPvB Assessment) no hazard was Identified., Therefore according on REACH Annex I (5.0) an exposure estimation and risk characterisation is not necessary.

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC15

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently).
	Physical Form (at time of use)	liquid
	Vapour pressure	> 100 hPa
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently).	
Other operational conditions affecting workers exposure	Assumes use at not more than 20 °C above ambient temperature, unless stated differently.	
	Limit the substance content in the mixture to 25 %.(PROC4)	
Technical conditions and measures to control dispersion from source towards the worker	Pouring from small containers Treatment by dipping and pouring	Ensure operation is undertaken outdoors. or Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Avoid carrying out operation for more than 4 hours.(PROC8a)
	General exposures (open systems)	Ensure operation is undertaken outdoors. or Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

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		Avoid carrying out operation for more than 1 hour.(PROC4)
	Equipment cleaning and maintenance	Ensure operation is undertaken outdoors. or Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Drain down system prior to equipment break-in or maintenance.(PROC8a)
	Drum/batch transfers Dedicated facility	Use drum pumps. Ensure operation is undertaken outdoors. or Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).(PROC8b)
	General exposures (closed systems) Batch process	Ensure operation is undertaken outdoors. or Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Avoid carrying out operation for more than 1 hour.(PROC3)
	Storage	Store substance within a closed system.
Conditions and measures related to personal protection, hygiene and health evaluation	Pouring from small containers	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.(PROC8a)
	General exposures (open systems)	Wear suitable gloves tested to EN374.(PROC4)
	Equipment cleaning and maintenance	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.(PROC8a)
	Drum/batch transfers Dedicated facility	Wear suitable gloves tested to EN374.(PROC8b)

3. Exposure estimation and reference to its source

Workers

When the recommended risk management measures (RMMs) and operational conditions (OCs) are observed, exposures are not expected to exceed the predicted PNECs and the resulting risk characterisation ratios are expected to be less than 1.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

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1. Short title of Exposure Scenario 12: Use in oil and gas field drilling and production operations

Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Sectors of end-use	SU 10: Formulation [mixing] of preparations and/ or re-packaging (excluding alloys)
Process categories	PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities PROC15: Use as laboratory reagent
Environmental Release Categories	ERC1: Manufacture of substances ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

2.1 Contributing scenario controlling environmental exposure for: ERC1, ERC4

In the chemical safety assessment performed according to Article 14(3) in connection with Annex I section 3 (Environmental Hazard Assessment) and section 4 (PBT/vPvB Assessment) no hazard was Identified., Therefore according on REACH Annex I (5.0) an exposure estimation and risk characterisation is not necessary.

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC15

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently).
	Physical Form (at time of use)	liquid
	Vapour pressure	> 100 hPa
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently).	
Other operational conditions affecting workers exposure	Assumes use at not more than 20 °C above ambient temperature, unless stated differently.	
	Limit the substance content in the mixture to 25 %.(PROC4)	
Technical conditions and measures to control dispersion from source towards the worker	Bulk transfers	Ensure material transfers are under containment or extract ventilation.(PROC8a, PROC8b)
	Filling / preparation of equipment from drums or containers	Use drum pumps. Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).(PROC8a, PROC8b)

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	Drill floor operations	Ensure operation is undertaken outdoors. or Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Avoid carrying out operation for more than 4 hours.(PROC4)
	Operation of solids filtering equipment	Ensure material transfers are under containment or extract ventilation.(PROC4)
	Treatment and disposal of filtered solids	Ensure material transfers are under containment or extract ventilation.(PROC3)
	Process sampling	Use a sampling system designed to control exposure. Ensure operation is undertaken outdoors. or Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).(PROC8b)
	General exposures (closed systems)	Handle substance within a closed system.(PROC2)
	Pouring from small containers	Ensure operation is undertaken outdoors. or Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).(PROC8a)
	General exposures (open systems)	Ensure operation is undertaken outdoors. or Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Avoid carrying out operation for more than 4 hours.(PROC4)
	Equipment cleaning and maintenance	Ensure operation is undertaken outdoors. or Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Avoid carrying out operation for more than 1 hour.(PROC8a)
	Batch process Product sampling	Handle substance within a closed system. Provide extraction ventilation at points where emissions occur.(PROC4)
Conditions and measures related to personal protection, hygiene and health evaluation	Filling / preparation of equipment from drums or containers	Wear suitable gloves tested to EN374.(PROC8a, PROC8b)
	Pouring from small containers	Wear suitable gloves tested to EN374.(PROC8a)
	General exposures (open systems)	Wear suitable gloves tested to EN374.(PROC4)
	Equipment cleaning and maintenance	Wear suitable gloves tested to EN374.(PROC8a)
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3. Exposure estimation and reference to its source

Workers

When the recommended risk management measures (RMMS) and operational conditions (OCs) are observed, exposures are not expected to exceed the predicted PNECs and the resulting risk characterisation ratios are expected to be less than 1.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

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1. Short title of Exposure Scenario 13: Use in agrochemicals

Main User Groups	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Sectors of end-use	SU 10: Formulation [mixing] of preparations and/ or re-packaging (excluding alloys)
Process categories	PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities PROC15: Use as laboratory reagent
Environmental Release Categories	ERC8d: Wide dispersive outdoor use of processing aids in open systems

2.1 Contributing scenario controlling environmental exposure for: ERC8d

In the chemical safety assessment performed according to Article 14(3) in connection with Annex I section 3 (Environmental Hazard Assessment) and section 4 (PBT/vPvB Assessment) no hazard was Identified., Therefore according on REACH Annex I (5.0) an exposure estimation and risk characterisation is not necessary.

Technical conditions and measures at process level (source) to prevent release Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil Organizational measures to prevent/limit release from the site	In the chemical safety assessment performed according to Article 14(3) in connection with Annex I section 3 (Environmental Hazard Assessment) and section 4 (PBT/vPvB Assessment) no hazard was Identified. Therefore according on REACH Annex I (5.0) an exposure estimation and risk characterisation is not necessary However a qualitative risk assessment is provided in section 9.
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2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC15

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently).
	Physical Form (at time of use)	liquid
	Vapour pressure	> 100 hPa
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently).	
Other operational conditions affecting workers exposure	Assumes use at not more than 20 °C above ambient temperature, unless stated differently., Assumes a good basic standard of occupational hygiene is	

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implemented.		
Technical conditions and measures to control dispersion from source towards the worker	Transfer from/pouring from containers	Use drum pumps or carefully pour from container. Avoid carrying out operation for more than 4 hours.(PROC8a, PROC8b)
	Equipment cleaning and maintenance Non-dedicated facility	Drain down system prior to equipment break-in or maintenance. Avoid carrying out operation for more than 4 hours. Retain drain downs in sealed storage pending disposal or for subsequent recycle. Limit the substance content in the product to 5 %.(PROC8a, PROC8b)
	Spraying/fogging by manual application	Avoid carrying out operation for more than 1 hour. Limit the substance content in the product to 5 %.
	Ad hoc manual application via trigger sprays, dipping, etc	Avoid carrying out operation for more than 1 hour. Limit the substance content in the product to 5 %.
	Storage	Store substance within a closed system. or Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).(PROC1, PROC2)
	Storage Product sampling	Store substance within a closed system. Avoid carrying out operation for more than 4 hours.(Outdoor PROC1, PROC2)
	Spraying Machine	Avoid carrying out operation for more than 4 hours. Carry out in a vented booth provided with laminar airflow. Limit the substance content in the product to 5 %.
	Mixing in containers	Ensure material transfers are under containment or extract ventilation. Avoid carrying out operation for more than 4 hours.(PROC4)
	Disposal of wastes Non-dedicated facility	Ensure operation is undertaken outdoors. or Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Avoid carrying out operation for more than 1 hour. Limit the substance content in the product to 5 %.(PROC8a)
Organisational measures to prevent /limit releases, dispersion and exposure	Spraying/fogging by manual application	Provide basic employee training to prevent/minimize exposures
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN374.(PROC8a, PROC8b)	
	Spraying/fogging by manual application	Protective gloves complying with EN 374. Wear a respirator conforming to EN140 with Type A filter or better.
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Spraying Machine	Wear suitable gloves tested to EN374.
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3. Exposure estimation and reference to its source

Workers

When the recommended risk management measures (RMMS) and operational conditions (OCs) are observed, exposures are not expected to exceed the predicted PNECs and the resulting risk characterisation ratios are expected to be less than 1.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

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1. Short title of Exposure Scenario 14: Use in agrochemicals

Main User Groups	SU 21: Consumer uses: Private households (= general public = consumers)
Chemical product category	PC12: Fertilizers PC27: Plant protection products
Environmental Release Categories	ERC8a: Wide dispersive indoor use of processing aids in open systems ERC8d: Wide dispersive outdoor use of processing aids in open systems

2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8d

In the chemical safety assessment performed according to Article 14(3) in connection with Annex I section 3 (Environmental Hazard Assessment) and section 4 (PBT/vPvB Assessment) no hazard was Identified., Therefore according on REACH Annex I (5.0) an exposure estimation and risk characterisation is not necessary.

2.2 Contributing scenario controlling consumer exposure for: PC12, PC27

Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations up to 15%
	Physical Form (at time of use)	liquid
	Vapour pressure	2029 hPa
Amount used	Amount used per event	3 g
Frequency and duration of use	Exposure duration per event	120 min
	Frequency of use	1 Times per day
	Frequency of use	365 days/year
Human factors not influenced by risk management	Exposed skin surface	857 cm ²
Other given operational conditions affecting consumers exposure	Covers use at ambient temperatures., Covers use under typical household ventilation., For each use event, assumes swallowed amount of 0.3 grams	
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	No specific risk management measure identified beyond those operational conditions stated.	

3. Exposure estimation and reference to its source

Consumers

When the recommended risk management measures (RMMs) and operational conditions (OCs) are observed, exposures are not expected to exceed the predicted PNECs and the resulting risk characterisation ratios are expected to be less than 1.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the

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Exposure Scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

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1. Short title of Exposure Scenario 15: Use in agrochemicals

Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Sectors of end-use	SU 10: Formulation [mixing] of preparations and/ or re-packaging (excluding alloys)
Process categories	PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities PROC15: Use as laboratory reagent
Environmental Release Categories	ERC1: Manufacture of substances

2.1 Contributing scenario controlling environmental exposure for: ERC1

In the chemical safety assessment performed according to Article 14(3) in connection with Annex I section 3 (Environmental Hazard Assessment) and section 4 (PBT/vPvB Assessment) no hazard was Identified., Therefore according on REACH Annex I (5.0) an exposure estimation and risk characterisation is not necessary.

Technical conditions and measures at process level (source) to prevent release Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil Organizational measures to prevent/limit release from the site	In the chemical safety assessment performed according to Article 14(3) in connection with Annex I section 3 (Environmental Hazard Assessment) and section 4 (PBT/vPvB Assessment) no hazard was Identified. Therefore according on REACH Annex I (5.0) an exposure estimation and risk characterisation is not necessary However a qualitative risk assessment is provided in section 9.
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2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC15

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently).
	Physical Form (at time of use)	liquid
	Vapour pressure	> 100 hPa
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently).	
Other operational conditions affecting workers exposure	Assumes use at not more than 20 °C above ambient temperature, unless stated	

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	differently., Assumes a good basic standard of occupational hygiene is implemented.	
Technical conditions and measures to control dispersion from source towards the worker	Transfer from/pouring from containers	Use drum pumps or carefully pour from container. Avoid carrying out operation for more than 4 hours.(PROC8a, PROC8b)
	Equipment cleaning and maintenance Non-dedicated facility	Drain down system prior to equipment break-in or maintenance. Avoid carrying out operation for more than 4 hours. Retain drain downs in sealed storage pending disposal or for subsequent recycle. Limit the substance content in the product to 5 %.(PROC8a, PROC8b)
	Spraying/fogging by manual application	Avoid carrying out operation for more than 1 hour. Limit the substance content in the product to 5 %.
	Ad hoc manual application via trigger sprays, dipping, etc	Avoid carrying out operation for more than 1 hour. Limit the substance content in the product to 5 %.
	Storage	Store substance within a closed system. or Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).(PROC1, PROC2)
	Storage Product sampling	Store substance within a closed system. Avoid carrying out operation for more than 4 hours.(Outdoor PROC1, PROC2)
	Spraying Machine	Avoid carrying out operation for more than 4 hours. Carry out in a vented booth provided with laminar airflow. Limit the substance content in the product to 5 %.
	Mixing in containers	Ensure material transfers are under containment or extract ventilation. Avoid carrying out operation for more than 4 hours.(PROC4)
	Disposal of wastes Non-dedicated facility	Ensure operation is undertaken outdoors. or Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Avoid carrying out operation for more than 1 hour. Limit the substance content in the product to 5 %.(PROC8a)
Organisational measures to prevent /limit releases, dispersion and exposure	Spraying/fogging by manual application	Provide basic employee training to prevent/minimize exposures
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN374.(PROC8a, PROC8b)	
	Spraying/fogging by manual application	Protective gloves complying with EN 374. Wear a respirator conforming to EN140 with Type A

SAFETY DATA SHEET according to Regulation (EC) No. 1907/2006

Acetic acid...%

Version 2.0

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	filter or better.
Spraying Machine	Wear suitable gloves tested to EN374.

3. Exposure estimation and reference to its source

Workers

When the recommended risk management measures (RMMs) and operational conditions (OCs) are observed, exposures are not expected to exceed the predicted PNECs and the resulting risk characterisation ratios are expected to be less than 1.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

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