FICHE DE DONNÉES DE SÉCURITÉ

RUBRIQUE 1 : IDENTIFICATION DE LA SUBSTANCE/DU MÉLANGE ET DE LA SOCIÉTÉ/L'ENTREPRISE

1.1. **Identificateur de produit :**
Absorgel

1.2. **Utilisations identifiées pertinentes de la substance ou du mélange et utilisations déconseillées :**
Dessiccant, absorbant pour usage industriel, privé et professionnel.

1.3. **Renseignements concernant le fournisseur de la fiche de données de sécurité :**

Informations sur le distributeur / fabricant :
Absortech Group
Tryckerivägen 4, 311 44 Falkenberg
Suède
Tel: 034-64 20 70

1.3.1. Personne responsable : -
E-mail : info@absortech.com

1.4. **Numéro d'appel d'urgence :** **Numéro ORFILA (INRS)**
+ 33 (0) 1 45 42 59 59 (24 heures sur 24 et 7 jours sur 7)

RUBRIQUE 2 : IDENTIFICATION DES DANGERS

2.1. **Classification de la substance ou du mélange :**

Classification selon le Règlement (CE) N° 1272/2008 (CLP) :
Lésions oculaires graves/irritation oculaire, catégorie de danger 2 – H319

Mentions de danger :
H319 – Provoque une sévère irritation des yeux.

2.2. **Éléments d'étiquetage :**

ATTENTION

Mentions de danger :
H319 – Provoque une sévère irritation des yeux.

Conseils de prudence :
P102 – Tenir hors de portée des enfants.
P280 – Porter des gants de protection/des vêtements de protection/un équipement de protection des yeux/du visage.
P305 + **P351** + **P338** – EN CAS DE CONTACT AVEC LES YEUX : Rincer avec précaution à l'eau pendant plusieurs minutes.. Enlever les lentilles de contact si la victime en porte et si elles peuvent être facilement enlevées. Continuer à rincer.
P337 + **P313** – Si l'irritation oculaire persiste : consulter un médecin.

2.3. **Autres dangers :**

Peut former un mélange air-poussière explosif en cas de dispersion.
Résultats des évaluations PBT et vPvB : Ce mélange ne contient aucun composant considéré comme persistant, bioaccumulable et toxique (PBT), ou très persistant et très bioaccumulable (vPvB) à des niveaux de 0,1 % ou plus, conformément à l'annexe XIII du règlement 1907/2006/CE.
Propriété perturbant le système endocrinien : Ce mélange ne contient aucun composant considéré comme perturbateur endocrinien conformément au Règlement délégué (UE) 2017/2100 de la Commission ou au Règlement (UE) 2018/605 de la Commission à des niveaux de 0,1 % ou plus.

RUBRIQUE 3 : COMPOSITION / INFORMATIONS SUR LES COMPOSANTS

3.1. **Substances :**

Non applicable.

3.2. **Mélanges :**

Description	Numéro CAS	Numéro CE / Numéro de liste de l'ECHA	Numéro de registration REACH	Conc. (%)	Classification selon le Règlement (CE) N° 1272/2008 (CLP)		
					Code(s) des pictogrammes, mentions d'avertissement	Code(s) des classes et catégories de danger	Code(s) des mentions de danger
Chlorure de calcium Numéro d'index : 017-013-00-2	10043-52-4	233-140-8	01-2119494219-28	65 – < 90	GHS07 Attention	Eye Irrit. 2	H319
Amidon*	9005-25-8	232-679-6	exempté	10 – < 35	-	n'est pas classifié	-

* : Classification spécifiée par le fabricant, la substance ne figure pas dans l'annexe VI du Règlement (CE) N° 1272/2008.

It does not contain any other substance considered to be hazardous to health or to the environment or its concentration does not reach the level specified in the relevant legislation and therefore it does not need to be included in the safety data sheet.

Pour le texte intégral des mentions de danger, voir Rubrique 16.

RUBRIQUE 4 : PREMIERS SECOURS

4.1. **Description des mesures de premiers secours :**

INGESTION :

Mesures :

- Rincer la bouche et boire de l'eau.
- Ne pas faire vomir.
- Si les symptômes persistent, consulter un médecin.

INHALATION :

Mesures :

- Amener la victime à l'air frais et la laisser au repos.
- Consulter un médecin si les symptômes se développent et persistent.

CONTACT CUTANÉE :

Mesures :

- Enlever les vêtements contaminés.
- Laver immédiatement la peau avec du savon et de l'eau.
- Consulter un médecin si les symptômes se développent et persistent.

CONTACT AVEC LES YEUX :

Mesures :

- En cas de contact avec les yeux, rincer immédiatement avec un jet d'eau doux ou bain occulaire, en écartant les paupières (pendant au moins 15 minutes).
- Éliminez les lentilles contact.
- Si les symptômes persistent, consulter un médecin.

4.2. **Principaux symptômes et effets, aigus et différés :**
Inhalation : Peut causer une irritation légère / temporaire.
Contact avec la peau : Peut causer une irritation légère / temporaire.
Contact avec les yeux : Provoque des brûlures intenses, des larmoiement / un larmoiement accru.
Ingestion : Peut provoquer une irritation de la bouche et de la gorge.

4.3. **Indication des éventuels soins médicaux immédiats et traitements particuliers nécessaires :**
Pas de traitements particuliers nécessaires, traiter symptomatiquement.

RUBRIQUE 5 : MESURES DE LUTTE CONTRE L'INCENDIE

5.1. **Moyens d'extinction :**

5.1.1. **Moyens d'extinction appropriés :**
Choisissez les agents d'extinction en fonction de l'environnement de l'incendie.

5.1.2. **Moyens d'extinction inappropriés :**
Il n'y a pas de moyens d'extinction non adaptés.

5.2. **Dangers particuliers résultant de la substance ou du mélange :**
Non combustible.
En cas d'incendie, des fumées toxiques et corrosives peuvent se développer, tel que le chlorure d'hydrogène et d'autres produits de combustion.

5.3. **Conseils aux pompiers :**
Précautions selon la procédure standard pour les incendies de produits chimiques.
Utiliser un appareil respiratoire pour se protéger contre les gaz toxiques / corrosifs et des vêtements de protection appropriés résistant au feu.

RUBRIQUE 6 : MESURES À PRENDRE EN CAS DE DISPERSION ACCIDENTELLE

6.1. **Précautions individuelles, équipement de protection et procédures d'urgence :**

6.1.1. **Pour les non-secouristes :**
Seul le personnel qualifié et ayant un équipement de protection individuel approprié peut se tenir à l'endroit de l'accident.

6.1.2. **Pour les secouristes :**
Prévenir la formation de la poussière.
Éviter tout contact avec la peau et les yeux.
Lors du nettoyage, porter des gants de protection, un équipement de protection des yeux et des vêtements de protection.
Eloigner les personnes non protégées.

6.2. **Précautions pour la protection de l'environnement :**
Éliminer le déversement et les déchets qui en résultent selon les réglementations environnementales en vigueur. Ne pas laisser le produit ou ses déchets pénétrer dans les égouts/sols/eaux souterraines. Avertissez immédiatement les autorités respectives conformément à la législation locale en cas de pollution de l'environnement.

6.3. **Méthodes et matériel de confinement et de nettoyage :**
Balayer le produit, puis placez les déchets collectés dans un conteneur de déchets dangereux, étiquetés et fermable, jusqu'au retrait / à l'élimination approprié.
Manipuler conformément aux règlementations locales.

6.4. **Référence à d'autres rubriques :**
Pour plus d'informations détaillées, voir les Rubriques 8 et 13.

RUBRIQUE 7 : MANIPULATION ET STOCKAGE

7.1. **Précautions à prendre pour une manipulation sans danger :**
Respecter les procédures hygiéniques habituelles.
Éviter l'inhalation et le contact direct avec le produit.
Ne pas manger, boire ou fumer en manipulant ce produit.
Pratiquer une bonne hygiène des mains.
Mesures techniques :
Aucune instruction spéciale.
Préventions des incendies et des explosions :
Peut former un mélange air-poussière explosif en cas de dispersion.

7.2. **Conditions d'un stockage sûr, y compris les éventuelles incompatibilités :**

Mesures techniques et conditions de stockage :
Stocker dans un endroit frais, sec et bien ventilé.
Le produit est hygroscopique.
Stocker dans le récipient d'origine et étiqueté.
Matières incompatibles : Voir la rubrique 10.5.
Conseils relatifs à l'emballage : polyéthylène, polypropylène et matières plastiques telles que PVDF, PTFE et PFA. Matériau d'emballage inapproprié: aluminium.

7.3. **Utilisation(s) finale(s) particulière(s) :**
Voir la rubrique 1.

RUBRIQUE 8 : CONTRÔLES DE L'EXPOSITION/PROTECTION INDIVIDUELLE

8.1. **Paramètres de contrôle :**

Valeurs limites d'exposition professionnelle (Valeurs limites d'exposition professionnelle aux agents chimiques en France (ED 6443-2021) :
Les composants du mélange ne sont pas réglementés par des valeurs limites d'exposition.

Chlorure de calcium (CAS: 10043-52-4):

Valeurs DNEL		**Exposition orale**		**Exposition cutanée**		**Exposition par inhalation**	
		À court terme (aiguë)	À long terme (chronique)	À court terme (aiguë)	À long terme (chronique)	À court terme (aiguë)	À long terme (chronique)
Consommateur	Locale	aucune donnée	aucune donnée	aucune donnée	aucune donnée	aucune donnée	aucune donnée
	Systémique	aucune donnée	aucune donnée	aucune donnée	aucune donnée	aucune donnée	aucune donnée
Employé	Locale	aucune donnée	aucune donnée	aucune donnée	aucune donnée	10 mg/m³	5 mg/m³
	Systémique	aucune donnée	aucune donnée	aucune donnée	aucune donnée	aucune donnée	aucune donnée

Valeurs PNEC		
Compartiment	Valeur	Remarque(s)
Eau douce	aucune donnée	aucunes remarques
Eau marine	aucune donnée	aucunes remarques
Sédiments d'eau douce	aucune donnée	aucunes remarques
Sédiment d'eau marine	aucune donnée	aucunes remarques
Station de traitement des eaux usées (STP)	aucune donnée	aucunes remarques
Émission intermittente	aucune donnée	aucunes remarques
Intoxication secondaire	aucune donnée	aucunes remarques
Sol	aucune donnée	aucunes remarques

8.2. **Contrôles de l'exposition :**
Au cas où il n'y a aucune valeur limite pour un produit dangereux fixée par la réglementation, l'employeur est tenu de réduire l'exposition des travailleurs, jusqu'au seuil minimal où, d'après l'état actuel de la science, le produit dangereux n'a aucun effet nocif sur la santé.

8.2.1. **Contrôles techniques appropriés :**
Pendant le travail éviter le déversement du produit et le contact avec les vêtements, la peau et les yeux.
Les procédés sont conçus de manière à ce que la concentration de poussière soit maintenue aussi faible que possible en utilisant des processus fermés, un échappement de ventilation local ou similaire.
Fournir des installations de douche oculaire sur le lieu de travail.

8.2.2. **Mesures de protection individuelle, telles que les équipements de protection individuelle :**

1. **Protection des yeux / du visage :** Des lunettes de protection doivent être utilisées (EN ISO 16321-1:2022; EN 166).
2. **Protection de la peau :**
   a. **Protection des mains :** Au risque de contact direct, des gants de protection doivent être utilisés (EN 374). Matériau de gant recommandé : PVC, néoprène et caoutchouc naturel.
   b. **Autres :** Utilisez un manteau / une salopette à manches longues et des chaussures de protection complète appropriées.
3. **Protection respiratoire :** Lors de la manipulation de grandes quantités, une protection respiratoire peut être nécessaire (EN 143). Filtre à particules : P2.
4. **Risques thermiques :** Aucun danger thermique connu.

8.2.3. **Contrôles d'exposition liés à la protection de l'environnement :**
Éviter le rejet dans l'environnement.
Les prescriptions détaillées dans la Rubrique 8 supposent un travail qualifié dans des conditions normales et l'utilisation du produit à des fins appropriées. Lorsque le travail est réalisé dans des conditions différentes ou extraordinaires, il est recommandé de prendre une décision concernant les actions à entreprendre et l'utilisation des moyens de protection individuels, avec la consultation d'un expert.

RUBRIQUE 9 : PROPRIÉTÉS PHYSIQUES ET CHIMIQUES

9.1. **Informations sur les propriétés physiques et chimiques essentielles :**

	Paramètre	Valeur / Méthode d'essai / Remarques
1.	État physique	solide, poudre / granulés
2.	Couleur	blanc, gris (la substance peut avoir de petites impuretés de fer qui donnent une légère nuance de coloration au produit final en fonction de l'état d'oxydation du fer lui-même (blanc cassé, jaune, rose))
3.	Odeur, seuil olfactif	inodore
4.	Point de fusion/point de congélation	782 °C (101,3 kPa) (chlorure de calcium)
5.	Point d'ébullition ou point initial d'ébullition et intervalle d'ébullition	>1600 °C (chlorure de calcium)
6.	Inflammabilité	non inflammable
7.	Limites inférieure et supérieure d'explosion	non applicable
8.	Point d'éclair	non pertinent
9.	Température d'auto-inflammation	non pertinent
10.	Température de décomposition	aucune donnée*
11.	pH	aucune donnée*
12.	Viscosité cinématique	non pertinent (solide)
13.	Solubilité dans l'eau dans d'autres solvants	soluble dans l'eau / 745 g/l (20 °C) (chlorure de calcium) aucune donnée*
14.	Coefficient de partage n-octanol/eau (valeur log)	non pertinent pour le chlorure de calcium car il se décompose dans l'eau (demi-vie inférieure à 12 heures)
15.	Pression de vapeur	non pertinent
16.	Densité et/ou densité relative	2,15 (20 °C) (chlorure de calcium)
17.	Densité de vapeur relative	non pertinent
18.	Caractéristiques des particules	aucune donnée*

9.2. **Autres informations :**

9.2.1. **Informations concernant les classes de danger physique :**
Propriétés explosives : n'est pas explosive. Peut former un mélange air-poussière explosif en cas de dispersion.
Propriétés comburantes: n'est pas comburante.

9.2.2. **Autres caractéristiques de sécurité :**
Aucune autre caractéristique disponible.

* : Le fabricant n'a effectué aucun test sur ce paramètre pour le produit ou les résultats des tests ne sont pas disponibles au moment de la publication de la fiche de données de sécurité, ou la propriété ne s'applique pas au produit.

RUBRIQUE 10 : STABILITÉ ET RÉACTIVITÉ

10.1. **Réactivité :**
Le produit n'est pas réactif en cas d'utilisation et stockage prévus.

10.2. **Stabilité chimique :**
Le produit est stable en cas d'utilisation et stockage prévus.

10.3. **Possibilité de réactions dangereuses :**
Le chlorure de calcium peut réagir violemment au contact de l'eau.

10.4. **Conditions à éviter :**
Évitez d'exposer la substance à l'humidité pendant le stockage.

10.5. **Matières incompatibles :**
Le produit peut réagir avec les agents oxydants forts / agents réducteurs.
Dans une solution aqueuse, le chlorure de calcium peut être corrosif pour les métaux.

10.6. **Produits de décomposition dangereux :**
Aucun produit de décomposition dangereux connu.

RUBRIQUE 11 : INFORMATIONS TOXICOLOGIQUES

11.1. **Informations sur les classes de danger telles que définies dans le règlement (CE) no 1272/2008 :**
Toxicité aiguë : Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
Corrosion cutanée/irritation cutanée : Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
Lésions oculaires graves/irritation oculaire : Provoque une sévère irritation des yeux.
Sensibilisation respiratoire ou cutanée : Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
Mutagénicité sur les cellules germinales : Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
Cancérogénicité : Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
Toxicité pour la reproduction: Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
Toxicité spécifique pour certains organes cibles (STOT) — exposition unique : Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
Toxicité spécifique pour certains organes cibles (STOT) — exposition répétée : Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
Danger par aspiration : Compte tenu des données disponibles, les critères de classification ne sont pas remplis.

11.1.1. **Résumés des informations pour les substances soumises à enregistrement :**
Aucune donnée disponible.

11.1.2. **Effets toxicologiques pertinents :**
Informations sur le produit :
Un contact prolongé et répété peut provoquer la déshydratation de la peau.
Le produit est irritant pour les yeux (OCDE 405).
En cas d'inhalation, les poussières peuvent être irritantes pour les voies respiratoires supérieures et du poumon.
Danger par aspiration : Non pertinent car le produit n'est pas un liquide.

Informations sur les composants :
Chlorure de calcium (CAS: 10043-52-4):
DL_{50} (orale, rat) : 2301 mg/kg
DL_{50} (cutanée, lapin) : > 5000 mg/kg
Corrosion cutanée/irritation cutanée : Non corrosif / irritant pour la peau (OCDE 404).

11.1.3. **Informations sur les voies d'exposition probables :**
Ingestion, inhalation, contact avec la peau, contact avec les yeux.

11.1.4. **Symptômes liés aux caractéristiques physiques, chimiques et toxicologiques :**
Aucune donnée disponible.

11.1.5. **Effets différés et immédiats, et effets chroniques d'une exposition de courte et de longue durée :**
Provoque une sévère irritation des yeux.

11.1.6. **Effets interactifs :**
Aucune donnée disponible.

11.1.7. **Absence de données spécifiques :**
Aucune information.

11.2. **Informations sur les autres dangers :**
Propriétés perturbant le système endocrinien :
Propriété perturbant le système endocrinien : Ce mélange ne contient aucun composant considéré comme perturbateur endocrinien conformément au Règlement délégué (UE) 2017/2100 de la Commission ou au Règlement (UE) 2018/605 de la Commission à des niveaux de 0,1 % ou plus.
Autres informations :
Aucune donnée disponible.

RUBRIQUE 12 : INFORMATIONS ÉCOLOGIQUES

12.1. **Toxicité :**

Le produit n'est pas classé comme dangereux pour l'environnement et ne devrait pas entraîner de conséquences environnementales négatives, mais doit être manipulé conformément aux bonnes normes industrielles.

Informations sur les composants :
Chlorure de calcium (CAS: 10043-52-4):
LC_{50} (Pimephales promelas): 4630 mg/l/96h
EC_{50} (Daphnia magna): 2400 mg/l/48h
IC_{50} (Pseudokirchneriella subcapitata): >4000 mg/l/72h

12.2. **Persistance et dégradabilité :**

Pour les substances inorganiques, aucun essai de dégradation n'est nécessaire.
Cependant, le chlorure de calcium ne devrait pas subir de photolyse ou de biodégradation.

12.3. **Potentiel de bioaccumulation :**

Le chlorure de calcium est facilement dissocié en ions calcium et chlorure et les deux ions sont des constituants essentiels du corps de tous les animaux, donc si une quantité élevée est absorbée, cela est régulé par le corps. Une bioaccumulation de chlorure de calcium n'est donc pas attendue.

12.4. **Mobilité dans le sol :**

Le chlorure de calcium est soluble dans l'eau et sa pression de vapeur est négligeable. Le chlorure de calcium ne devrait pas être absorbé dans le sol en raison de ses propriétés de dissociation et de sa grande solubilité dans l'eau. Quant au comportement du calcium dans le sol, l'ion calcium peut se lier aux particules du sol ou former des sels inorganiques stables avec les ions sulfate et carbonate. L'ion chlorure est mobile dans le sol et finit par s'écouler dans l'eau de surface car il se dissout facilement dans l'eau.

12.5. **Résultats des évaluations PBT et vPvB :**

Les critères PBT et vPvB ne sont pas applicables aux substances inorganiques (chlorure de calcium).
Ce mélange ne contient aucun composant considéré comme persistant, bioaccumulable et toxique (PBT), ou très persistant et très bioaccumulable (vPvB) à des niveaux de 0,1 % ou plus, conformément à l'annexe XIII du règlement 1907/2006/CE.

12.6. **Propriétés perturbant le système endocrinien :**

Propriété perturbant le système endocrinien : Ce mélange ne contient aucun composant considéré comme perturbateur endocrinien conformément au Règlement délégué (UE) 2017/2100 de la Commission ou au Règlement (UE) 2018/605 de la Commission à des niveaux de 0,1 % ou plus.

12.7. **Autres effets néfastes :**

Aucune donnée disponible.

RUBRIQUE 13 : CONSIDÉRATIONS RELATIVES À L'ÉLIMINATION

13.1. **Méthodes de traitement des déchets :**

Élimination conformément aux réglementations locales.

13.1.1. **Informations concernant l'élimination du produit :**

Éliminer conformément à la réglementation en vigueur.
Empêcher le rejet dans les égouts, les cours d'eau, etc.

Liste de codification des déchets :

Pour ce produit, aucun code de déchets ne peut être déterminé selon la liste européenne de codification des déchets, car seul l'usage défini par l'utilisateur permet une allocation. La codification des déchets doit être déterminé en discussion avec un spécialiste chargé de l'élimination des déchets.

13.1.2. **Méthodes de traitement des emballages :**

Éliminer conformément à la réglementation en vigueur.
L'emballage non-nettoyé doit être éliminé de la même manière que le produit.
Les emballages bien vidés et nettoyés peuvent être traités comme des déchets conventionnels et peuvent être incinérés (récupération d'énergie).
Les emballages vidés et nettoyés peuvent être traités comme des déchets conventionnels et être recyclés.

Liste de codification des déchets :

Emballages contaminés:

15 01 10*	emballages contenant des résidus de substances dangereuses ou contaminés par de tels résidus

*: Déchets dangereux

Emballage vide :

15 01 01	emballages en papier/carton
15 01 02	emballages en matières plastiques
15 01 04	emballages métalliques
15 01 07	emballages en verre

13.1.3. Les propriétés physiques / chimiques qui peuvent influencer le traitement des déchets :
Aucune donnée disponible.

13.1.4. Informations concernant le traitement des eaux usées :
Aucune donnée disponible.

13.1.5. Précautions particulières à prendre en matière de traitement des déchets :
Aucune donnée disponible.

RUBRIQUE 14 : INFORMATIONS RELATIVES AU TRANSPORT

ADR/RID ; ADN ; IMDG ; IATA :
Non soumis aux conventions de transport de marchandises dangereuses.

14.1. Numéro ONU ou numéro d'identification :
Aucun numéro ONU.

14.2. Désignation officielle de transport de l'ONU :
Aucun nom d'expédition.

14.3. Classe(s) de danger pour le transport :
Aucune(s) classe(s) de danger.

14.4. Groupe d'emballage :
Aucun groupe d'emballage.

14.5. Dangers pour l'environnement :
Aucune information pertinente disponible.

14.6. Précautions particulières à prendre par l'utilisateur :
Aucune information pertinente disponible.

14.7. Transport maritime en vrac conformément aux instruments de l'OMI :
Non applicable.

RUBRIQUE 15 : INFORMATIONS RELATIVES À LA RÉGLEMENTATION

15.1. Réglementations/législation particulières à la substance ou au mélange en matière de sécurité, de santé et d'environnement :

RÈGLEMENT (CE) N° 1907/2006 du Parlement européen et du Conseil du 18 décembre 2006 concernant l'enregistrement, l'évaluation et l'autorisation des substances chimiques, ainsi que les restrictions applicables à ces substances (REACH), instituant une agence européenne des produits chimiques, modifiant la Directive (CE) N° 1999/45 et abrogeant le Règlement (CEE) N° 793/93 du Conseil et le Règlement (CE) N° 1488/94 de la Commission ainsi que la Directive (CEE) N° 76/769 du Conseil et les Directives (CEE) N° 91/155, (CEE) N° 93/67, (CE) N° 93/105 et (CE) N° 2000/21 de la Commission

RÈGLEMENT (CE) N° 1272/2008 du Parlement européen et du Conseil du 16 décembre 2008 relatif à la classification, à l'étiquetage et à l'emballage des substances et des mélanges, modifiant et abrogeant les Directives (CEE) N° 67/548 et (CE) N° 1999/45 et modifiant le Règlement (CE) N° 1907/2006

RÈGLEMENT (UE) 2020/878 DE LA COMMISSION du 18 juin 2020 modifiant l'annexe II du règlement (CE) no 1907/2006 du Parlement européen et du Conseil concernant l'enregistrement, l'évaluation et l'autorisation des substances chimiques, ainsi que les restrictions applicables à ces substances (REACH)

Le produit ne contient aucune substance répertoriée dans l'annexe XIV de REACH (liste d'autorisation) ou sur la liste candidate de l'UE des substances contenant des substances extrêmement préoccupantes (SVHC) à des concentrations ≥ 0,1% (p / p).

Le produit n'est affecté par aucune restriction en vertu de REACH, Annexe XVII.

15.2. Évaluation de la sécurité chimique : Pour chlorure de calcium, une évaluation de la sécurité chimique a été effectuée.

RUBRIQUE 16 : AUTRES INFORMATIONS

Données concernant la révision des fiches de données de sécurité :
La fiche de données de sécurité a été revue conformément au Règlement (UE) N° 2020/878 (Rubrique 1-16).
La composition du mélange n'ont pas été modifiées par rapport à la version précédente.

Cette fiche de données de sécurité remplace toutes les versions précédentes conformément à l'annexe II du Règlement (CE) n° 1907/2006.

Références bibliographiques / sources de données :
Previous version of the fiche de données de sécurité (13/11/2020, Version : 1)
Fiche de données de sécurité délivrée par le fabricant (20/04/2023, EN)

Méthodes utilisées pour la classification conformément au Règlement (CE) N° 1272/2008 :

Classification	Méthode
Lésions oculaires graves/irritation oculaire, catégorie de danger 2 – H319	Basé sur une méthode de calcul

Mentions de danger pertinentes (code et texte intégral) des Rubriques 2 et 3 :
H319 – Provoque une sévère irritation des yeux.

Conseils relatifs à la formation : L'utilisateur de ce produit doit reçevoir une formation pertinente aux propriétés du produit et à son utilisation appropriée.

Texte complet des abréviations dans la fiche de données de sécurité :
ADN : Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure.
ADR : Accord relatif au transport international des marchandises dangereuses par route.
ATE : Toxicité aiguë estimée.
AOX : Halogène organique adsorbable.
BCF : Facteur de bioconcentration.
BOD : Demande biologique en oxygène.
Numéro CAS : Numéro Chemical Abstracts Service.
CLP : Règlement (CE) n° 1272/2008 relatif à la classification, à l'étiquetage et à l'emballage des substances et des mélanges.
Effets CMR : Effets cancérogènes, mutagènes, reprotoxiques.
COD : Demande chimique en oxygène.
CSA : Évaluation de la sécurité chimique.
CSR : Rapport sur la sécurité chimique.
DNEL : Dose dérivée sans effet.
ECHA : Agence européenne des produits chimiques.
CE : Communauté européenne.
Numéro CE : Numéros EINECS et ELINCS (voir aussi EINECS et ELINCS).
EEC : Communauté Économique Européenne.
EEA : Espace économique européen (UE + Islande, Liechtenstein et Norvège).
EINECS : Inventaire européen des produits chimiques commercialisés.
ELINCS : Liste européenne des substances chimiques notifiées.
EN : Norme Européenne.
UE : Union Européenne.
EuPCS: Système européen de catégorisation des produits.
EWC : Catalogue européen des déchets (remplacé par LoW (Liste de codification des déchets) - voir ci-dessous).
GHS : Système global harmonisé de classification et étiquetage de produits chimiques.
IATA : Association internationale de transport aérien (IATA).
ICAO-TI : Instructions techniques pour la sécurité du transport aérien des marchandises dangereuses.
IMDG : Code international maritime pour produits dangereux.
OMI : Organisation maritime internationale (IMO).
IMSBC : Cargaisons maritimes internationales solides en vrac.
IUCLID : Base de données internationale pour des informations chimiques uniformes.
IUPAC : Union internationale de chimie pure et appliquée.
Kow : Coefficient de partage n-octanol/eau.
LC50 : Concentration létale entraînant une mortalité de 50%.
LD50 : Dose létale entraînant une mortalité de 50% (dose létale médiane).
LoW : Liste des déchets.

LOEC : Concentration efficace la plus faible observée.
LOEL : Dose minimale avec effet observé.
NOEC : Concentration sans effet observé.
NOEL : Concentration sans effet observé.
NOAEC : Concentration sans effet nocif observé.
NOAEL : Dose sans effet nocif observé.
OECD : Organisation de Coopération et de Développement Économiques.
OSHA : Administration hygiène et sécurité au travail.
PBT : Persistant, bioaccumulable et toxique.
PNEC : Concentration prédite sans effet.
QSAR : Relation Quantitative Structure-Activité.
REACH : Règlement 1907/2006/CE concernant l'enregistrement, l'évaluation, l'autorisation et la restriction des produits chimiques.
RID : Règlementation relative au transport ferroviaire international des produits dangereux.
SCBA : Appareil de respiration autonome.
SDS : Fiche de données de sécurité (FDS).
STOT : Toxicité spécifique pour certains organes cibles
SVHC : Substances extrêmement préoccupantes.
UN : Les Nations Unies.
UVCB : Substances chimiques de composition inconnue ou variable, produits de réaction complexes et matières biologiques.
COV : Composés organiques volatiles.
vPvB : très persistant et très bioaccumulable.

Cette fiche de données de sécurité avait été établie sur la base des informations fournies par le fabricant / fournisseur et conformément aux règlements pertinents.
Les renseignements, les données et les recommandations contenus dans cette fiche de données de sécurité sont basés sur l'état actuel de nos connaissances à la date indiquée; cependant, aucune indication n'est faite quant à l'exhaustivité des informations.
La FDS doit uniquement être utilisée en tant que guide pour la manipulation du produit; lors de la manipulation et de l'utilisation du produit, d'autres dispositions peuvent être prises en compte ou peuvent être nécessaires.
Les utilisateurs sont priés de déterminer la pertinence et l'applicabilité des informations ci-dessus à leurs circonstances et objectifs particuliers et d'assumer tous les risques associés à l'utilisation de ce produit.
Il est de la responsabilité de l'utilisateur de se conformer pleinement aux réglementations locales, nationales et internationales concernant l'utilisation de ce produit.

Fiche de données de sécurité établie par :
MSDS-Europe
Département internationale de Toxinfo Kft.

Assistance professionnelle concernant
l'explication de la fiche de données de sécurité :
+36 70 335 8480; info@msds-europe.com
www.msds-europe.com

EXPOSURE SCENARIO FOR CALCIUM CHLORIDE	
No.	**Short title**
ES 1	Formulation or re-packing
ES 2	Use at industrial sites; Various sectors (SU 1, SU 2a, SU 2b, SU 4, SU 5, SU 6b, SU 8, SU 9, SU 11, SU 12, SU 13, SU 14, SU 15, SU 16, SU 17)
ES 3	Widespread use by professional workers; Various sectors (SU 0, SU 1, SU 13, SU 19, SU 20)
ES 4	Widespread use by professional workers; Various sectors (SU 0, SU 1, SU 5, SU 13, SU 19, SU 20)
ES 5	Consumer use; PC 0, 2

ES 1: Formulation or re-packing

Title section

ES name: Formulation or re-packing; Distribution of substance

Environment	
1: Formulation into mixture	ERC 2
Worker	
2: *Chemical production in closed process without likelihood of exposure or in containment conditions.*	PROC 1
3: *Chemical production in closed continuous process with occasional controlled exposure.*	PROC 2
4: *Formulation in closed batch processes with occasional controlled exposure.*	PROC 3
5: *Chemical production where opportunity for exposure arises*	PROC 4
6: Mixing or blending in batch processes	PROC 5
7: *Transfer of a substance or mixture during process sampling at dedicated facilities*	PROC 8b, PROC 26
8: *Transfer of a substance or mixture during process sampling at non-dedicated facilities*	PROC 8a, PROC 26
9: *Transfer of substance or mixture into small containers (dedicated filling line, including weighing)*	PROC 9, PROC 26
10: Use as laboratory reagent	PROC 15, PROC 26
11: Tabletting, compression, extrusion, pelettisation, granulation	PROC 14
12: *Transfer of substance or mixture (charging/discharging) at non dedicated-facilities*	PROC 8a, PROC 26
13: *Transfer of substance or mixture (charging/discharging) at dedicated-facilities*	PROC 8b, PROC 26
14: *Equipment cleaning and maintenance at non-dedicated facility*	PROC 8a, PROC 28
15: Manual maintenance (cleaning and repair) of machinery	PROC 28

Conditions of use affecting exposure

Control of worker exposure

Conditions of use applicable to all contributing scenarios

Product (article) characteristics
Covers concentrations up to 100 %
Solid, medium dustiness. Covers also liquid form
Technical and organisational conditions and measures
Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS.
Use suitable eye protection.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 20 °C

Specific conditions of use per contributing scenario

Contributing scenario	Specific conditions of use
Chemical production in closed process without likelihood of exposure or in containment conditions. **(PROC 1)**	Covers use up to 8 h/day Provide a basic standard of general ventilation (1 to 3 air changes per hour).
Chemical production in closed continuous process with occasional controlled exposure. **(PROC 2)**	Covers use up to 8 h/day Provide a basic standard of general ventilation (1 to 3 air changes per hour).

Formulation in closed batch processes with occasional controlled exposure. **(PROC 3)**	Covers use up to 8 h/day Provide a basic standard of general ventilation (1 to 3 air changes per hour).
Chemical production where opportunity for exposure arises **(PROC 4)**	Covers use up to 8 h/day Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). *Respiratory protection (APF of 10) is to be worn in those case where there is potential for peak exposure. Alternatively, good general ventilation with a minimum of 5-10 air changes per air can be applied.*
Mixing or blending in batch processes (PROC 5)	Covers use up to 8 h/day Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). *Respiratory protection (APF of 10) is to be worn in those case where there is potential for peak exposure. Alternatively, good general ventilation with a minimum of 5-10 air changes per air can be applied.*
Transfer of a substance or mixture during process sampling at dedicated facilities **(PROC 8b, PROC 26)**	Covers use up to 8 h/day Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).
Transfer of a substance or mixture during process sampling at non-dedicated facilities **(PROC 8a, PROC 26)**	Covers use up to 1 h/day Provide a basic standard of general ventilation (1 to 3 air changes per hour). *Respiratory protection (APF of 10) is to be worn in those case where there is potential for peak exposure. Alternatively, good general ventilation with a minimum of 5-10 air changes per air can be applied.*
Transfer of substance or mixture into small containers (dedicated filling line, including weighing) **(PROC 9, PROC 26)**	Covers use up to 8 h/day Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). *Respiratory protection (APF of 10) is to be worn in those case where there is potential for peak exposure. Alternatively, good general ventilation with a minimum of 5-10 air changes per air can be applied.*
Use as laboratory reagent (PROC 15, PROC 26)	Covers use up to 8 h/day Provide a basic standard of general ventilation (1 to 3 air changes per hour).
Tabletting, compression, extrusion, pelettisation, granulation (PROC 14)	Covers use up to 8 h/day Provide a basic standard of general ventilation (1 to 3 air changes per hour).

Transfer of substance or mixture (charging/discharging) at non dedicated-facilities **(PROC 8a, PROC 26)**	Covers use up to 8 h/day Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). *Respiratory protection (APF of 10) is to be worn in those case where there is potential for peak exposure. Alternatively, good general ventilation with a minimum of 5-10 air changes per air can be applied.*
Transfer of substance or mixture (charging/discharging) at dedicated-facilities **(PROC 8b, PROC 26)**	Covers use up to 8 h/day Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).
Equipment cleaning and maintenance at non-dedicated facility **(PROC 8a, PROC 28)**	Covers use up to 8 h/day Provide a basic standard of general ventilation (1 to 3 air changes per hour). *Handle substance within a closed system [ES47] Drain down and flush system prior to equipment break-in or maintenance [E55] Transfer via enclosed lines [E52]* *Respiratory protection (APF of 10) is to be worn in those case where there is potential for peak exposure. Alternatively, good general ventilation with a minimum of 5-10 air changes per air can be applied.*
Manual maintenance (cleaning and repair) of machinery (PROC 28)	Covers use up to 8 h/day Provide a basic standard of general ventilation (1 to 3 air changes per hour). *Handle substance within a closed system [ES47] Drain down and flush system prior to equipment break-in or maintenance [E55] Transfer via enclosed lines [E52]* *Respiratory protection (APF of 10) is to be worn in those case where there is potential for peak exposure. Alternatively, good general ventilation with a minimum of 5-10 air changes per air can be applied.*

Exposure estimation and reference to its source

Worker exposure: Chemical production in closed process without likelihood of exposure or in containment conditions. (PROC 1)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.01 mg/m³ (TRA Workers 3.0)	< 0.01
Inhalation, local, acute	0.04 mg/m³ (TRA Workers 3.0)	< 0.01

Worker exposure: Chemical production in closed continuous process with occasional controlled exposure. (PROC 2)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.5 mg/m³ (TRA Workers 3.0)	0.1
Inhalation, local, acute	2 mg/m³ (TRA Workers 3.0)	0.2

Worker exposure: Formulation in closed batch processes with occasional controlled exposure. (PROC 3)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	1 mg/m³ (TRA Workers 3.0)	0.2
Inhalation, local, acute	4 mg/m³ (TRA Workers 3.0)	0.4

Worker exposure: Chemical production where opportunity for exposure arises (PROC 4)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.35 mg/m³ (TRA Workers 3.0)	0.07
Inhalation, local, acute	1.4 mg/m³ (TRA Workers 3.0)	0.14

Worker exposure: Mixing or blending in batch processes (PROC 5)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.35 mg/m³ (TRA Workers 3.0)	0.07
Inhalation, local, acute	1.4 mg/m³ (TRA Workers 3.0)	0.14

Worker exposure: Transfer of a substance or mixture during process sampling at dedicated facilities (PROC 8b, PROC 26)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.7 mg/m³ (TRA Workers 3.0)	0.14
Inhalation, local, acute	2.8 mg/m³ (TRA Workers 3.0)	0.28

Worker exposure: Transfer of a substance or mixture during process sampling at non-dedicated facilities (PROC 8a, PROC 26)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.1 mg/m³ (TRA Workers 3.0)	0.02
Inhalation, local, acute	2 mg/m³ (TRA Workers 3.0)	0.2

Worker exposure: Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC 9, PROC 26)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.35 mg/m³ (TRA Workers 3.0)	0.07
Inhalation, local, acute	1.4 mg/m³ (TRA Workers 3.0)	0.14

Worker exposure: Use as laboratory reagent (PROC 15, PROC 26)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.5 mg/m³ (TRA Workers 3.0)	0.1
Inhalation, local, acute	2 mg/m³ (TRA Workers 3.0)	0.2

Worker exposure: Tabletting, compression, extrusion, pelettisation, granulation (PROC 14)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	1 mg/m³ (TRA Workers 3.0)	0.2
Inhalation, local, acute	4 mg/m³ (TRA Workers 3.0)	0.4

Worker exposure: Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (PROC 8a, PROC 26)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.35 mg/m³ (TRA Workers 3.0)	0.07
Inhalation, local, acute	1.4 mg/m³ (TRA Workers 3.0)	0.14

Worker exposure: Transfer of substance or mixture (charging/discharging) at dedicated-facilities (PROC 8b, PROC 26)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.7 mg/m³ (TRA Workers 3.0)	0.14
Inhalation, local, acute	2.8 mg/m³ (TRA Workers 3.0)	0.28

Worker exposure: Equipment cleaning and maintenance at non-dedicated facility (PROC 8a, PROC 28)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.5 mg/m³ (TRA Workers 3.0)	0.1
Inhalation, local, acute	2 mg/m³ (TRA Workers 3.0)	0.2

Worker exposure: Manual maintenance (cleaning and repair) of machinery (PROC 28)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.5 mg/m³ (PROC 8a estimate used to cover PROC 28)	0.1
Inhalation, local, acute	2 mg/m³ (PROC 8a estimate used to cover PROC 28)	0.2

ES 2: Use at industrial sites; Various sectors (SU 1, SU 2a, SU 2b, SU 4, SU 5, SU 6b, SU 8, SU 9, SU 11, SU 12, SU 13, SU 14, SU 15, SU 16, SU 17)

Title section

ES name: *Use at industrial site (e.g. Industrial Indoor use as Process aid, Industrial Outdoor use)*

Sector of use: Agriculture, forestry, fishery (SU 1), Mining (without offshore industries) (SU 2a), Offshore industries (SU 2b), Manufacture of food products (SU 4), Manufacture of textiles, leather, fur (SU 5), Manufacture of pulp, paper and paper products (SU 6b), Manufacture of bulk, large scale chemicals (including petroleum products) (SU 8), Manufacture of fine chemicals (SU 9), Manufacture of rubber products (SU 11), Manufacture of plastics products, including compounding and conversion (SU 12), Manufacture of other non-metallic mineral products, e.g. plasters, cement (SU 13), Manufacture of basic metals, including alloys (SU 14), Manufacture of fabricated metal products, except machinery and equipment (SU 15), Manufacture of computer, electronic and optical products, electrical equipment (SU 16), General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment. (SU 17)

Environment	
1: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)	ERC 4
Worker	
2: *Chemical production in closed process without likelihood of exposure or in containment conditions or processes with equivalent containment conditions*	PROC 1
3: *Chemical production in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions*	PROC 2
4: *Manufacture or formulation in closed batch processes with occasional controlled exposure or processes with equivalent containment condition*	PROC 3
5: Chemical production where opportunity for exposure arises	PROC 4
6: Mixing or blending in batch processes	PROC 5
7: Calendering operations	PROC 6

8: *Transfer of a substance or mixture during process sampling at non-dedicated facilities with a local exhaust ventilation*	PROC 8a, PROC 26
9: *Transfer of a substance or mixture during process sampling at non-dedicated facilities without a local exhaust ventilation*	PROC 8a, PROC 26
10: *Transfer of a substance or mixture during process sampling at dedicated facilities with a local exhaust ventilation*	PROC 8b, PROC 26
11: *Transfer of a substance or mixture during process sampling at dedicated facilities without a local exhaust ventilation*	PROC 8b, PROC 26
12: *Transfer of substance or mixture (charging/discharging) at non-dedicated facilities with a local exhaust ventilation.*	PROC 8a, PROC 26
13: *Transfer of substance or mixture (charging/discharging) at non-dedicated facilities without a local exhaust ventilation.*	PROC 8a, PROC 26
14: *Transfer of substance or mixture (charging/discharging) at dedicated facilities with a local exhaust ventilation.*	PROC 8b, PROC 26
15: *Transfer of substance or mixture (charging/discharging) at dedicated facilities without a local exhaust ventilation.*	PROC 8b, PROC 26
16: *Equipment cleaning and maintenance at non-dedicated facility*	PROC 8a, PROC 28
17: *Transfer of substance or mixture into small containers (dedicated filling line, including weighing) at facilities with a local exhaust ventilation*	PROC 9, PROC 26, PROC 27b
18: *Transfer of substance or mixture into small containers (dedicated filling line, including weighing) at facilities without a local exhaust ventilation*	PROC 9, PROC 26
25: Tabletting, compression, extrusion, pelettisation, granulation	PROC 14
26: Use as laboratory reagent	PROC 15, PROC 26, PROC 27b
27: *Open processing and transfer operations at substantially elevated temperature (=< melting point - Medium fugacity)*	PROC 23, PROC 27a
28: *Open processing and transfer operations at substantially elevated temperature (> melting point - High fugacity)*	PROC 23, PROC 27a
29: *Manual maintenance (cleaning and repair) of machinery at noon-dedicated facilities*	PROC 28

Conditions of use affecting exposure

Control of worker exposure

Conditions of use applicable to all contributing scenarios

Technical and organisational conditions and measures
Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS.
Use suitable eye protection.
Other conditions affecting workers exposure
Assumes process temperature up to 20 °C

Specific conditions of use per contributing scenario

Contributing scenario	Specific conditions of use
Chemical production in closed process without likelihood of exposure or in containment conditions or processes with equivalent containment conditions **(PROC 1)**	Covers concentrations up to 100 % *Solid, medium dustiness. Covers also liquid form* Covers use up to 8 h/day Provide a basic standard of general ventilation (1 to 3 air changes per hour). Indoor use
Chemical production in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions **(PROC 2)**	Covers concentrations up to 100 % *Solid, medium dustiness. Covers also liquid form* Covers use up to 8 h/day Provide a basic standard of general ventilation (1 to 3 air changes per hour). Indoor use

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Manufacture or formulation in closed batch processes with occasional controlled exposure or processes with equivalent containment condition **(PROC 3)**	Covers concentrations up to 100 % *Solid, medium dustiness. Covers also liquid form* Covers use up to 8 h/day Provide a basic standard of general ventilation (1 to 3 air changes per hour). Indoor use
Chemical production where opportunity for exposure arises (PROC 4)	Covers concentrations up to 100 % *Solid, medium dustiness. Covers also liquid form* Covers use up to 8 h/day Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Local exhaust ventilation; Inhalation - minimum efficiency of 90 % Indoor use
Mixing or blending in batch processes (PROC 5)	Covers concentrations up to 100 % *Solid, medium dustiness. Covers also liquid form* Covers use up to 8 h/day Wear suitable respiratory protection.; Inhalation - minimum efficiency of 90 %; For further specification, refer to section 8 of the SDS. Outdoor use
Calendering operations (PROC 6)	Covers concentrations up to 100 % *Solid, medium dustiness. Covers also liquid form* Covers use up to 8 h/day Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). *Respiratory protection (APF of 10) is to be worn in those case where there is potential for peak exposure. Alternatively, good general ventilation with a minimum of 5-10 air changes per air can be applied.* Indoor use
Transfer of a substance or mixture during process sampling at non-dedicated facilities with a local exhaust ventilation **(PROC 8a, PROC 26)**	Covers concentrations up to 100 % *Solid, medium dustiness. Covers also liquid form* Covers use up to 1 h/day Local exhaust ventilation; Inhalation - minimum efficiency of 90 %

	Provide a basic standard of general ventilation (1 to 3 air changes per hour). Indoor use
Transfer of a substance or mixture during process sampling at non-dedicated facilities without a local exhaust ventilation **(PROC 8a, PROC 26)**	Covers concentrations up to 100 % *Solid, medium dustiness. Covers also liquid form* Covers use up to 1 h/day Provide a basic standard of general ventilation (1 to 3 air changes per hour). *Respiratory protection (APF of 10) is to be worn in those case where there is potential for peak exposure. Alternatively, good general ventilation with a minimum of 5-10 air changes per air can be applied.* Indoor use
Transfer of a substance or mixture during process sampling at dedicated facilities with a local exhaust ventilation **(PROC 8b, PROC 26)**	Covers concentrations up to 100 % *Solid, medium dustiness. Covers also liquid form* Covers use up to 8 h/day Local exhaust ventilation; Inhalation - minimum efficiency of 95 % Provide a basic standard of general ventilation (1 to 3 air changes per hour). Indoor use
Transfer of a substance or mixture during process sampling at dedicated facilities without a local exhaust ventilation **(PROC 8b, PROC 26)**	Covers concentrations up to 100 % *Solid, medium dustiness. Covers also liquid form* Covers use up to 8 h/day Provide a basic standard of general ventilation (1 to 3 air changes per hour). Indoor use
Transfer of substance or mixture (charging/discharging) at non-dedicated facilities with a local exhaust ventilation. **(PROC 8a, PROC 26)**	Covers concentrations up to 100 % *Solid, medium dustiness. Covers also liquid form* Covers use up to 8 h/day Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Local exhaust ventilation; Inhalation - minimum efficiency of 90 % Indoor use
Transfer of substance or mixture (charging/discharging) at non-dedicated facilities	Covers concentrations up to 100 % *Solid, medium dustiness. Covers also liquid form*

without a local exhaust ventilation. **(PROC 8a, PROC 26)**	Covers use up to 8 h/day Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). *Respiratory protection (APF of 10) is to be worn in those case where there is potential for peak exposure. Alternatively, good general ventilation with a minimum of 5-10 air changes per air can be applied.* Indoor or outdoor use
Transfer of substance or mixture (charging/discharging) at dedicated facilities with a local exhaust ventilation. **(PROC 8b, PROC 26)**	Covers concentrations up to 100 % *Solid, medium dustiness. Covers also liquid form* Covers use up to 8 h/day Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Local exhaust ventilation; Inhalation - minimum efficiency of 95 % Indoor use
Transfer of substance or mixture (charging/discharging) at dedicated facilities without a local exhaust ventilation. **(PROC 8b, PROC 26)**	Covers concentrations up to 100 % *Solid, medium dustiness. Covers also liquid form* Covers use up to 8 h/day Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Indoor or outdoor use
Equipment cleaning and maintenance at non-dedicated facility **(PROC 8a, PROC 28)**	Covers concentrations up to 100 % *Solid, medium dustiness. Covers also liquid form* Covers use up to 8 h/day Provide a basic standard of general ventilation (1 to 3 air changes per hour). Local exhaust ventilation; Inhalation - minimum efficiency of 90 % *Handle substance within a closed system [ES47] Drain down and flush system prior to equipment break-in or maintenance [E55] Transfer via enclosed lines [E52]* Indoor use
Transfer of substance or mixture into small containers (dedicated filling line, including weighing) at facilities with a	Covers concentrations up to 100 % *Solid, medium dustiness. Covers also liquid form* Covers use up to 8 h/day

local exhaust ventilation **(PROC 9, PROC 26, PROC 27b)**	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Local exhaust ventilation; Inhalation - minimum efficiency of 90 % Indoor use
Transfer of substance or mixture into small containers (dedicated filling line, including weighing) at facilities without a local exhaust ventilation **(PROC 9, PROC 26)**	Covers concentrations up to 100 % *Solid, medium dustiness. Covers also liquid form* Covers use up to 8 h/day Provide a basic standard of general ventilation (1 to 3 air changes per hour). *Respiratory protection (APF of 10) is to be worn in those case where there is potential for peak exposure. Alternatively, good general ventilation with a minimum of 5-10 air changes per air can be applied.* Indoor or outdoor use
Tabletting, compression, extrusion, pelettisation, granulation (PROC 14)	Covers concentrations up to 100 % *Solid, medium dustiness. Covers also liquid form* Covers use up to 8 h/day Provide a basic standard of general ventilation (1 to 3 air changes per hour). Indoor use
Use as laboratory reagent (PROC 15, PROC 26, PROC 27b)	Covers concentrations up to 100 % *Solid, medium dustiness. Covers also liquid form* Covers use up to 8 h/day Provide a basic standard of general ventilation (1 to 3 air changes per hour). Indoor use
Open processing and transfer operations at substantially elevated temperature (=< melting point - Medium fugacity) **(PROC 23, PROC 27a)**	Covers concentrations up to 100 % *Solid, medium dustiness. Covers also liquid form* Covers use up to 8 h/day Provide a basic standard of general ventilation (1 to 3 air changes per hour). Indoor use
Open processing and transfer operations at substantially elevated temperature (> melting point - High fugacity)	Covers concentrations up to 100 % *Solid, medium dustiness. Covers also liquid form* Covers use up to 8 h/day

(PROC 23, PROC 27a)	Provide a good standard of controlled ventilation (5 to 10 air changes per hour). Local exhaust ventilation; Inhalation - minimum efficiency of 90 % Indoor use
Manual maintenance (cleaning and repair) of machinery at noon-dedicated facilities **(PROC 28)**	Covers concentrations up to 100 % *Solid, medium dustiness. Covers also liquid form* Covers use up to 8 h/day Provide a basic standard of general ventilation (1 to 3 air changes per hour). Local exhaust ventilation; Inhalation - minimum efficiency of % *Handle substance within a closed system [ES47] Drain down and flush system prior to equipment break-in or maintenance [E55] Transfer via enclosed lines [E52]* Indoor use

Exposure estimation and reference to its source

Worker exposure: Chemical production in closed process without likelihood of exposure or in containment conditions or processes with equivalent containment conditions (PROC 1)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.01 mg/m³ (TRA Workers 3.0)	< 0.01
Inhalation, local, acute	0.04 mg/m³ (TRA Workers 3.0)	< 0.01

Worker exposure: Chemical production in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC 2)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.5 mg/m³ (TRA Workers 3.0)	0.1
Inhalation, local, acute	2 mg/m³ (TRA Workers 3.0)	0.2

Worker exposure: Manufacture or formulation in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC 3)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	1 mg/m³ (TRA Workers 3.0)	0.2
Inhalation, local, acute	4 mg/m³ (TRA Workers 3.0)	0.4

Worker exposure: Chemical production where opportunity for exposure arises (PROC 4)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.35 mg/m³ (TRA Workers 3.0)	0.07
Inhalation, local, acute	1.4 mg/m³ (TRA Workers 3.0)	0.14

Worker exposure: Mixing or blending in batch processes (PROC 5)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.35 mg/m³ (TRA Workers 3.0)	0.07
Inhalation, local, acute	1.4 mg/m³ (TRA Workers 3.0)	0.14

Worker exposure: Calendering operations (PROC 6)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.35 mg/m³ (TRA Workers 3.0)	0.07
Inhalation, local, acute	1.4 mg/m³ (TRA Workers 3.0)	0.14

Worker exposure: Transfer of a substance or mixture during process sampling at non-dedicated facilities with a local exhaust ventilation (PROC 8a, PROC 26)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.1 mg/m³ (TRA Workers 3.0)	0.02
Inhalation, local, acute	2 mg/m³ (TRA Workers 3.0)	0.2

Worker exposure: Transfer of a substance or mixture during process sampling at non-dedicated facilities without a local exhaust ventilation (PROC 8a, PROC 26)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.1 mg/m³ (TRA Workers 3.0)	0.02
Inhalation, local, acute	2 mg/m³ (TRA Workers 3.0)	0.2

Worker exposure: Transfer of a substance or mixture during process sampling at dedicated facilities with a local exhaust ventilation (PROC 8b, PROC 26)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.05 mg/m³ (TRA Workers 3.0)	0.01
Inhalation, local, acute	0.2 mg/m³ (TRA Workers 3.0)	0.02

Worker exposure: Transfer of a substance or mixture during process sampling at dedicated facilities without a local exhaust ventilation (PROC 8b, PROC 26)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	1 mg/m³ (TRA Workers 3.0)	0.2
Inhalation, local, acute	4 mg/m³ (TRA Workers 3.0)	0.4

Worker exposure: Transfer of substance or mixture (charging/discharging) at non-dedicated facilities with a local exhaust ventilation. (PROC 8a, PROC 26)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.35 mg/m³ (TRA Workers 3.0)	0.07
Inhalation, local, acute	1.4 mg/m³ (TRA Workers 3.0)	0.14

Worker exposure: Transfer of substance or mixture (charging/discharging) at non-dedicated facilities without a local exhaust ventilation. (PROC 8a, PROC 26)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.35 mg/m³ (TRA Workers 3.0)	0.07
Inhalation, local, acute	1.4 mg/m³ (TRA Workers 3.0)	0.14

Worker exposure: Transfer of substance or mixture (charging/discharging) at dedicated facilities with a local exhaust ventilation. (PROC 8b, PROC 26)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.035 mg/m³ (TRA Workers 3.0)	< 0.01
Inhalation, local, acute	0.14 mg/m³ (TRA Workers 3.0)	0.014

Worker exposure: Transfer of substance or mixture (charging/discharging) at dedicated facilities without a local exhaust ventilation. (PROC 8b, PROC 26)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.7 mg/m³ (TRA Workers 3.0)	0.14

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, acute	2.8 mg/m³ (TRA Workers 3.0)	0.28

Worker exposure: Equipment cleaning and maintenance at non-dedicated facility (PROC 8a, PROC 28)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.5 mg/m³ (TRA Workers 3.0)	0.1
Inhalation, local, acute	2 mg/m³ (TRA Workers 3.0)	0.2

Worker exposure: Transfer of substance or mixture into small containers (dedicated filling line, including weighing) at facilities with a local exhaust ventilation (PROC 9, PROC 26, PROC 27b)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.35 mg/m³ (TRA Workers 3.0)	0.07
Inhalation, local, acute	1.4 mg/m³ (TRA Workers 3.0)	0.14

Worker exposure: Transfer of substance or mixture into small containers (dedicated filling line, including weighing) at facilities without a local exhaust ventilation (PROC 9, PROC 26)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.5 mg/m³ (TRA Workers 3.0)	0.1
Inhalation, local, acute	2 mg/m³ (TRA Workers 3.0)	0.2

Worker exposure: Tabletting, compression, extrusion, pelettisation, granulation (PROC 14)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	1 mg/m³ (TRA Workers 3.0)	0.2
Inhalation, local, acute	4 mg/m³ (TRA Workers 3.0)	0.4

Worker exposure: Use as laboratory reagent (PROC 15, PROC 26, PROC 27b)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.5 mg/m³ (TRA Workers 3.0)	0.1
Inhalation, local, acute	2 mg/m³ (TRA Workers 3.0)	0.2

Worker exposure: Open processing and transfer operations at substantially elevated temperature (=< melting point - Medium fugacity) (PROC 23, PROC 27a)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	1 mg/m³ (TRA Workers 3.0)	0.2
Inhalation, local, acute	4 mg/m³ (TRA Workers 3.0)	0.4

Worker exposure: Open processing and transfer operations at substantially elevated temperature (> melting point - High fugacity) (PROC 23, PROC 27a)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.03 mg/m³ (TRA Workers 3.0)	< 0.01
Inhalation, local, acute	0.12 mg/m³ (TRA Workers 3.0)	0.012

Worker exposure: Manual maintenance (cleaning and repair) of machinery at noon-dedicated facilities (PROC 28)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.5 mg/m³ (ECETOC TRA Workers)	0.1
Inhalation, local, acute	2 mg/m³ (ECETOC TRA Workers)	0.2

Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Scaling tool: For the evaluation of spraying activities the ART (Advanced Reach Tool) modeling tool has been used. In case the DU cannot demonstrate safe use with the conditions currently presented in this SDS Annex, the ART modeling Tool can be used as scaling tool.

ES 3: Widespread use by professional workers; Various sectors (SU 0, SU 1, SU 13, SU 19, SU 20)

Title section

ES name: Professional use; Indoor use

Sector of use: Other (SU 0), Agriculture, forestry, fishery (SU 1), Manufacture of other non-metallic mineral products, e.g. plasters, cement (SU 13), Building and construction work (SU 19), Health services (SU 20)

Environment	
1: Indoor use; Professional use	ERC 8a
Worker	
2: *Chemical production in closed process without likelihood of exposure or in containment conditions or processes with equivalent containment conditions*	PROC 1
3: *Chemical production in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions*	PROC 2
4: *Manufacture or formulation in closed batch processes with occasional controlled exposure or processes with equivalent containment condition*	PROC 3
5: Chemical production where opportunity for exposure arises	PROC 4
6: Mixing or blending in batch processes	PROC 5
7: *Transfer of substance or mixture (charging/discharging) at non-dedicated facilities*	PROC 8a, PROC 26
8: *Transfer of substance or mixture (charging/discharging) at dedicated facilities*	PROC 8b, PROC 26
9: *Transfer of substance or mixture into small containers (dedicated filling line, including weighing)*	PROC 9, PROC 26
10: Use as laboratory reagent	PROC 15, PROC 26

11: Manual activities involving hand contact	PROC 19
12: Use of functional fluids in small devices	PROC 20
13: *Equipment cleaning and maintenance at non-dedicated facility*	PROC 8a, PROC 28
14: *Manual maintenance (cleaning and repair) of machinery at non-dedicated facility*	PROC 28

Conditions of use affecting exposure

Control of worker exposure

Conditions of use applicable to all contributing scenarios

Conditions and measures related to personal protection, hygiene and health evaluation
Use suitable eye protection.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 20 °C

Specific conditions of use per contributing scenario

Contributing scenario	Specific conditions of use
Chemical production in closed process without likelihood of exposure or in containment conditions or processes with equivalent containment conditions **(PROC 1)**	Covers concentrations up to 100 % Solid, medium dustiness Covers use up to 8 h/day *Assumes a good basic standard of occupational hygiene is implemented* Provide a basic standard of general ventilation (1 to 3 air changes per hour). Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS.
Chemical production in closed	Covers concentrations up to 100 %

continuous process with occasional controlled exposure or processes with equivalent containment conditions **(PROC 2)**	Solid, medium dustiness Covers use up to 8 h/day *Assumes a good basic standard of occupational hygiene is implemented* Provide a basic standard of general ventilation (1 to 3 air changes per hour). Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS.
Manufacture or formulation in closed batch processes with occasional controlled exposure or processes with equivalent containment condition **(PROC 3)**	Covers concentrations up to 100 % Solid, medium dustiness Covers use up to 8 h/day Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS.
Chemical production where opportunity for exposure arises (PROC 4)	Covers concentrations up to 100 % Solid, medium dustiness Covers use up to 8 h/day *Assumes a good basic standard of occupational hygiene is implemented* Local exhaust ventilation; Inhalation - minimum efficiency of 80 % Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS.
Mixing or blending in batch processes (PROC 5)	Covers concentrations up to 100 % Solid, medium dustiness Covers use up to 8 h/day

	Assumes a good basic standard of occupational hygiene is implemented Local exhaust ventilation; Inhalation - minimum efficiency of 80 % Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS.
Transfer of substance or mixture (charging/discharging) at non-dedicated facilities **(PROC 8a, PROC 26)**	Covers concentrations up to 100 % Solid, medium dustiness Covers use up to 8 h/day *Assumes a good basic standard of occupational hygiene is implemented* Local exhaust ventilation; Inhalation - minimum efficiency of 80 % Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS.
Transfer of substance or mixture (charging/discharging) at dedicated facilities **(PROC 8b, PROC 26)**	Covers concentrations up to 100 % Solid, medium dustiness Covers use up to 8 h/day *Assumes a good basic standard of occupational hygiene is implemented* Local exhaust ventilation; Inhalation - minimum efficiency of 80 % Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS.
Transfer of substance or mixture into small containers	Covers concentrations up to 100 % Solid, medium dustiness

(dedicated filling line, including weighing) **(PROC 9, PROC 26)**	Covers use up to 8 h/day *Assumes a good basic standard of occupational hygiene is implemented* Local exhaust ventilation; Inhalation - minimum efficiency of 80 % Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS.
Use as laboratory reagent (PROC 15, PROC 26)	Covers concentrations up to 100 % Solid, medium dustiness Covers use up to 8 h/day *Assumes a good basic standard of occupational hygiene is implemented* Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS.
Manual activities involving hand contact (PROC 19)	Covers concentrations up to 100 % Solid, medium dustiness Covers use up to 8 h/day *Assumes a good basic standard of occupational hygiene is implemented* Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Local exhaust ventilation; Inhalation - minimum efficiency of 80 % Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS.
Use of functional fluids in small devices (PROC 20)	Covers concentrations up to 100 % Solid, medium dustiness

	Covers use up to 8 h/day *Assumes a good basic standard of occupational hygiene is implemented* Provide a basic standard of general ventilation (1 to 3 air changes per hour). Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS.
***Equipment cleaning and maintenance at non-dedicated facility* (PROC 8a, PROC 28)**	Covers concentrations up to 100 % Solid, medium dustiness Covers use up to 8 h/day *Assumes a good basic standard of occupational hygiene is implemented* Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). *Handle substance within a closed system [ES47] Drain down and flush system prior to equipment break-in or maintenance [E55] Transfer via enclosed lines [E52]* Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS. *Respiratory protection (APF of 10) is to be worn in those case where there is potential for peak exposure. Alternatively, good general ventilation with a minimum of 5-10 air changes per air can be applied.*
***Manual maintenance (cleaning and repair) of machinery at non-dedicated facility* (PROC 28)**	Covers concentrations up to 100 % Solid, medium dustiness Covers use up to 8 h/day *Assumes a good basic standard of occupational hygiene is implemented* Provide a basic standard of general ventilation (1 to 3 air changes per hour). Local exhaust ventilation; Inhalation - minimum efficiency of % *Handle substance within a closed system [ES47] Drain down and flush system prior to equipment break-in or maintenance [E55] Transfer via enclosed lines [E52]* Wear chemically resistant gloves (tested to EN374) in combination with

	'basic' employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS.

Exposure estimation and reference to its source

Worker exposure: Chemical production in closed process without likelihood of exposure or in containment conditions or processes with equivalent containment conditions (PROC 1)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.01 mg/m³ (TRA Workers 3.0)	< 0.01
Inhalation, local, acute	0.04 mg/m³ (TRA Workers 3.0)	< 0.01

Worker exposure: Chemical production in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC 2)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	1 mg/m³ (TRA Workers 3.0)	0.2
Inhalation, local, acute	4 mg/m³ (TRA Workers 3.0)	0.4

Worker exposure: Manufacture or formulation in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC 3)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.7 mg/m³ (TRA Workers 3.0)	0.14
Inhalation, local, acute	2.8 mg/m³ (TRA Workers 3.0)	0.28

Worker exposure: Chemical production where opportunity for exposure arises (PROC 4)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.7 mg/m³ (TRA Workers 3.0)	0.14
Inhalation, local, acute	2.8 mg/m³ (TRA Workers 3.0)	0.28

Worker exposure: Mixing or blending in batch processes (PROC 5)

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Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.7 mg/m³ (TRA Workers 3.0)	0.14
Inhalation, local, acute	2.8 mg/m³ (TRA Workers 3.0)	0.28

Worker exposure: Transfer of substance or mixture (charging/discharging) at non-dedicated facilities (PROC 8a, PROC 26)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	1.4 mg/m³ (TRA Workers 3.0)	0.28
Inhalation, local, acute	5.6 mg/m³ (TRA Workers 3.0)	0.56

Worker exposure: Transfer of substance or mixture (charging/discharging) at dedicated facilities (PROC 8b, PROC 26)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.7 mg/m³ (TRA Workers 3.0)	0.14
Inhalation, local, acute	2.8 mg/m³ (TRA Workers 3.0)	0.28

Worker exposure: Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC 9, PROC 26)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.7 mg/m³ (TRA Workers 3.0)	0.14
Inhalation, local, acute	2.8 mg/m³ (TRA Workers 3.0)	0.28

Worker exposure: Use as laboratory reagent (PROC 15, PROC 26)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.35 mg/m³ (TRA Workers 3.0)	0.07
Inhalation, local, acute	1.4 mg/m³ (TRA Workers 3.0)	0.14

Worker exposure: Manual activities involving hand contact (PROC 19)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.7 mg/m³ (TRA Workers 3.0)	0.14
Inhalation, local, acute	2.8 mg/m³ (TRA Workers 3.0)	0.28

Worker exposure: Use of functional fluids in small devices (PROC 20)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	1 mg/m³ (TRA Workers 3.0)	0.2
Inhalation, local, acute	4 mg/m³ (TRA Workers 3.0)	0.4

Worker exposure: Equipment cleaning and maintenance at non-dedicated facility (PROC 8a, PROC 28)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.7 mg/m³ (TRA Workers 3.0)	0.14
Inhalation, local, acute	2.8 mg/m³ (TRA Workers 3.0)	0.28

Worker exposure: Manual maintenance (cleaning and repair) of machinery at non-dedicated facility (PROC 28)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.7 mg/m³ (ECETOC TRA Workers)	0.14
Inhalation, local, acute	2.8 mg/m³ (ECETOC TRA Workers)	0.28

Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Scaling tool: For the evaluation of spraying activities the ART (Advanced Reach Tool) modeling tool has been used. In case the DU cannot demonstrate safe use with the conditions currently presented in this SDS Annex, the ART modeling Tool can be used as scaling tool.

ES 4: Widespread use by professional workers; Various sectors (SU 0, SU 1, SU 5, SU 13, SU 19, SU 20)

Title section

ES name: Professional use; Outdoor use

Sector of use: Other (SU 0), Agriculture, forestry, fishery (SU 1), Manufacture of textiles, leather, fur (SU 5), Manufacture of other non-metallic mineral products, e.g. plasters, cement (SU 13), Building and construction work (SU 19), Health services (SU 20)

Environment	
1: Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)	ERC 8d
Worker	
2: *Chemical production in closed process without likelihood of exposure or in containment conditions.*	PROC 1
3: *Chemical production in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions*	PROC 2
4: *Manufacture or formulation in closed batch processes with occasional controlled exposure or processes with equivalent containment conditions*	PROC 3
5: Chemical production where opportunity for exposure arises	PROC 4
6: Mixing or blending in batch processes	PROC 5
7: *Transfer of substance or mixture (charging/discharging) at non-dedicated facilities*	PROC 8a, PROC 26
8: *Transfer of substance or mixture (charging/discharging) at dedicated facilities*	PROC 8b, PROC 26
9: *Transfer of substance or mixture into small containers (dedicated filling line, including weighing)*	PROC 9, PROC 26
10: Use as laboratory reagent	PROC 15, PROC 26

11: Mixing operations; Manual activities involving hand contact	PROC 19
12: *Equipment cleaning and maintenance at non-dedicated facility*	PROC 8a
13: Use of functional fluids in small devices	PROC 20

Conditions of use affecting exposure

Control of worker exposure

Conditions of use applicable to all contributing scenarios

Other conditions affecting workers exposure
Outdoor use
Assumes process temperature up to 20 °C

Specific conditions of use per contributing scenario

Contributing scenario	Specific conditions of use
Chemical production in closed process without likelihood of exposure or in containment conditions. **(PROC 1)**	Covers concentrations up to 100 % Solid, medium dustiness Covers use up to 8 h/day *Assumes a good basic standard of occupational hygiene is implemented* Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS. *Use suitable eye protection*
Chemical production in closed continuous process with occasional controlled exposure	Covers concentrations up to 100 % Solid, medium dustiness Covers use up to 8 h/day

or processes with equivalent containment conditions **(PROC 2)**	*Assumes a good basic standard of occupational hygiene is implemented* Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS. *Use suitable eye protection*
Manufacture or formulation in closed batch processes with occasional controlled exposure or processes with equivalent containment conditions **(PROC 3)**	Covers concentrations up to 100 % Solid, medium dustiness Covers use up to 8 h/day *Assumes a good basic standard of occupational hygiene is implemented* Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS. *Use suitable eye protection*
Chemical production where opportunity for exposure arises (PROC 4)	Covers concentrations up to 100 % Solid, medium dustiness Covers use up to 8 h/day *Assumes a good basic standard of occupational hygiene is implemented* Wear suitable respiratory protection.; Inhalation - minimum efficiency of 90 %; For further specification, refer to section 8 of the SDS. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS. *Use suitable eye protection*
Mixing or blending in batch processes (PROC 5)	Covers concentrations up to 100 % Solid, medium dustiness Covers use up to 8 h/day *Assumes a good basic standard of occupational hygiene is implemented*

	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS. Wear suitable respiratory protection.; Inhalation - minimum efficiency of 90 %; For further specification, refer to section 8 of the SDS. *Use suitable eye protection*
Transfer of substance or mixture (charging/discharging) at non-dedicated facilities **(PROC 8a, PROC 26)**	Covers concentrations up to 100 % Solid, medium dustiness Covers use up to 8 h/day *Assumes a good basic standard of occupational hygiene is implemented* Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS. *Use suitable eye protection* Wear suitable respiratory protection.; Inhalation - minimum efficiency of 90 %; For further specification, refer to section 8 of the SDS.
Transfer of substance or mixture (charging/discharging) at dedicated facilities **(PROC 8b, PROC 26)**	Covers concentrations up to 100 % Solid, medium dustiness Covers use up to 8 h/day *Assumes a good basic standard of occupational hygiene is implemented* Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS. *Use suitable eye protection* Wear suitable respiratory protection.; Inhalation - minimum efficiency of 90 %; For further specification, refer to section 8 of the SDS.
Transfer of substance or mixture into small containers	Covers concentrations up to 100 %

(dedicated filling line, including weighing) **(PROC 9, PROC 26)**	Solid, medium dustiness Covers use up to 8 h/day *Assumes a good basic standard of occupational hygiene is implemented* *Use suitable eye protection* Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS. Wear suitable respiratory protection.; Inhalation - minimum efficiency of 90 %; For further specification, refer to section 8 of the SDS.
Use as laboratory reagent (PROC 15, PROC 26)	Covers concentrations up to 100 % Solid, medium dustiness Covers use up to 8 h/day *Assumes a good basic standard of occupational hygiene is implemented* Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS. *Use suitable eye protection*
Mixing operations; Manual activities involving hand contact (PROC 19)	Covers concentrations up to 100 % Solid, medium dustiness Covers use up to 8 h/day *Assumes a good basic standard of occupational hygiene is implemented* Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS. *Use suitable eye protection* Wear suitable respiratory protection.; Inhalation - minimum efficiency of 90 %; For further specification, refer to section 8 of the SDS.

Equipment cleaning and maintenance at non-dedicated facility **(PROC 8a)**	Covers concentrations up to 100 % Solid, medium dustiness Covers use up to 8 h/day *Assumes a good basic standard of occupational hygiene is implemented* *Handle substance within a closed system [ES47] Drain down and flush system prior to equipment break-in or maintenance [E55] Transfer via enclosed lines [E52]* Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS. *Use suitable eye protection* Wear suitable respiratory protection.; Inhalation - minimum efficiency of 90 %; For further specification, refer to section 8 of the SDS.
Use of functional fluids in small devices (PROC 20)	Covers concentrations up to 100 % Solid, medium dustiness Covers use up to 8 h/day *Assumes a good basic standard of occupational hygiene is implemented* Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.; For further specification, refer to section 8 of the SDS. *Use suitable eye protection*

Exposure estimation and reference to its source

Worker exposure: Chemical production in closed process without likelihood of exposure or in containment conditions. (PROC 1)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	7E-3 mg/m³ (TRA Workers 3.0)	< 0.01
Inhalation, local, acute	0.028 mg/m³ (TRA Workers 3.0)	< 0.01

Worker exposure: Chemical production in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC 2)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.7 mg/m³ (TRA Workers 3.0)	0.14
Inhalation, local, acute	2.8 mg/m³ (TRA Workers 3.0)	0.28

Worker exposure: Manufacture or formulation in closed batch processes with occasional controlled exposure or processes with equivalent containment conditions (PROC 3)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.7 mg/m³ (TRA Workers 3.0)	0.14
Inhalation, local, acute	2.8 mg/m³ (TRA Workers 3.0)	0.28

Worker exposure: Chemical production where opportunity for exposure arises (PROC 4)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.35 mg/m³ (TRA Workers 3.0)	0.07
Inhalation, local, acute	1.4 mg/m³ (TRA Workers 3.0)	0.14

Worker exposure: Mixing or blending in batch processes (PROC 5)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.35 mg/m³ (TRA Workers 3.0)	0.07
Inhalation, local, acute	1.4 mg/m³ (TRA Workers 3.0)	0.14

Absorgel

Worker exposure: Transfer of substance or mixture (charging/discharging) at non-dedicated facilities (PROC 8a, PROC 26)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.7 mg/m³ (TRA Workers 3.0)	0.14
Inhalation, local, acute	2.8 mg/m³ (TRA Workers 3.0)	0.28

Worker exposure: Transfer of substance or mixture (charging/discharging) at dedicated facilities (PROC 8b, PROC 26)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.35 mg/m³ (TRA Workers 3.0)	0.07
Inhalation, local, acute	1.4 mg/m³ (TRA Workers 3.0)	0.14

Worker exposure: Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC 9, PROC 26)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.35 mg/m³ (TRA Workers 3.0)	0.07
Inhalation, local, acute	1.4 mg/m³ (TRA Workers 3.0)	0.14

Worker exposure: Use as laboratory reagent (PROC 15, PROC 26)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.35 mg/m³ (TRA Workers 3.0)	0.07
Inhalation, local, acute	1.4 mg/m³ (TRA Workers 3.0)	0.14

Worker exposure: Mixing operations; Manual activities involving hand contact (PROC 19)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.35 mg/m³ (TRA Workers 3.0)	0.07
Inhalation, local, acute	1.4 mg/m³ (TRA Workers 3.0)	0.14

Worker exposure: Equipment cleaning and maintenance at non-dedicated facility (PROC 8a)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.7 mg/m³ (TRA Workers 3.0)	0.14
Inhalation, local, acute	2.8 mg/m³ (TRA Workers 3.0)	0.28

Worker exposure: Use of functional fluids in small devices (PROC 20)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	0.7 mg/m³ (TRA Workers 3.0)	0.14
Inhalation, local, acute	2.8 mg/m³ (TRA Workers 3.0)	0.28

Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Guidance: Application of de-icing agent (mixture of 70% NaCl and 30% of a 20% solution of CaCl2) assumes a fraction of 0.06 of CaCl2 in road salt with an annual tonnage of 0.09 tonnes/km for 25 emission days per year. Application of de-icing agent (liquid CaCl2 brine (max. 35% solution)) assumes a fraction of 0.35 of CaCl2 in road salt with an annual tonnage of 0.28 tonnes/km for 25 emission days per year. Application of Dust suppressor (solid CaCl2 (up to 80%)) assumes a fraction of 0.8 of CaCl2 in road salt with an annual tonnage of 2.4 tonnes/km for 3 emission days per year. Application of Dust suppressor (solid CaCl2 (up to 37%)) assumes a fraction of 0.37 of CaCl2 in road salt with an annual tonnage of 1.11 tonnes/km for 3 emission days per year.

ES 5: Consumer use; PC 0, 2

Title section

ES name: Consumer use; Indoor or outdoor use

Product category: Adsorbents (PC 2)

Environment	
1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)	ERC 8a
2: Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)	ERC 8d
Consumer	
3: *Humidity adsorbants*	PC 0
4: Adsorbents	PC 2

Conditions of use affecting exposure

Control of consumer exposure: *Humidity adsorbants* (PC 0)

Product (article) characteristics
Covers concentrations up to 100 %
Solid, medium dustiness. Covers also liquid form
Amount used (or contained in articles), frequency and duration of use/exposure
Covers use up to 1 events per day
Covers use up to 24 h
Information and behavioral advice for consumers

Requires room with good ventilation
Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.
Other conditions affecting consumers exposure
Release area <= 125 m2

Control of consumer exposure: Adsorbents (PC 2)

Product (article) characteristics
Covers concentrations up to 100 %
Solid, medium dustiness. Covers also liquid form
Amount used (or contained in articles), frequency and duration of use/exposure
Covers use up to 1 events per day
Covers use up to 24 h
Information and behavioral advice for consumers
Requires room with good ventilation
Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.
Other conditions affecting consumers exposure
Release area <= 125 m2

Exposure estimation and reference to its source

Consumer exposure: *Humidity adsorbants* (PC 0)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	5E-3 mg/m³ (ConsExpo)	< 0.01
Inhalation, local, acute	0.01 mg/m³ (ConsExpo)	< 0.01

Absorgel

Consumer exposure: Adsorbents (PC 2)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	5E-3 mg/m³ (ConsExpo)	< 0.01
Inhalation, local, acute	0.01 mg/m³ (ConsExpo)	< 0.01