

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

CALCIUM CHLORIDE 77% FLAKES /BAG 25 KG

Version 6.1

Print Date 14.03.2022

Revision date / valid from 04.02.2022

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name : CALCIUM CHLORIDE 77% FLAKES /BAG 25 KG
Substance name : calcium chloride
Index-No. : 017-013-00-2
CAS-No. : 10043-52-4
EC-No. : 233-140-8
EU REACH-Reg. No. : 01-2119494219-28-xxxx

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the Substance/Mixture : Used as:, Dust binding agents, process aid during oil drilling, dehumidifying, Road salt, Food additive, Refrigerant, Identified use: See table in front of appendix for a complete overview of identified uses.

Uses advised against : At this moment we have not identified any uses advised against

1.3. Details of the supplier of the safety data sheet

Company : Brenntag Nordic A/S
Borupvang 5 B
DK 2750 Ballerup

Telephone : +45 43 29 28 00
Telefax : +45 43 29 27 00
E-mail address : SDS.DK@brenntag-nordic.com
Responsible/issuing person : Environment & Quality

1.4. Emergency telephone number

Emergency telephone number : In case of personal injury call:
Denmark: 82 12 12 12 Giftlinien, Bispebjerg Hospital
Finland: Poison Information Centre: (09) 471 977 (direct) or (09) 47 11 (exchange), open 24h/day
Norway: 22 59 13 00 Giftinformasjonen (døgnåpent)
Sweden: +46-8-331231 Giftinformationscentralen (24 hour service)
Outside these countries: Please call your local emergency services

SECTION 2: Hazards identification

CALCIUM CHLORIDE 77% FLAKES /BAG 25 KG**2.1. Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008**

REGULATION (EC) No 1272/2008			
Hazard class	Hazard category	Target Organs	Hazard statements
Eye irritation	Category 2	---	H319

For the full text of the H-Statements mentioned in this Section, see Section 16.

Most important adverse effects

- Human Health : Causes serious eye irritation.
- Physical and chemical hazards : In case of fire hazardous decomposition products may be produced such as:, Hydrogen chloride gas
- Potential environmental effects : According to available data, this product is not harmful to the environment.

2.2. Label elements**Labelling according to Regulation (EC) No 1272/2008**

- Hazard symbols : 
- Signal word : Warning
- Hazard statements : H319 Causes serious eye irritation.
- Precautionary statements
- Prevention : P264 Wash skin thoroughly after handling.
P280 Wear eye protection/ face protection.
- Response : P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical advice/ attention.

Hazardous components which must be listed on the label:

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- calcium chloride

2.3. Other hazards

For Results of PBT and vPvB assessment see section 12.5.

SECTION 3: Composition/information on ingredients

3.1. Substances

Hazardous components	Amount [%]	Classification (REGULATION (EC) No 1272/2008)	
		Hazard class / Hazard category	Hazard statements
calcium chloride			
Index-No. : 017-013-00-2	>= 94 - <= 100	Eye Irrit.2	H319
CAS-No. : 10043-52-4			
EC-No. : 233-140-8			
EU REACH- : 01-2119494219-28-xxxx			
Reg. No.			

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

- General advice : Take off all contaminated clothing immediately. If symptoms call a physician.
- If inhaled : Remove to fresh air. If symptoms persist, call a physician.
- In case of skin contact : Wash off immediately with soap and plenty of water. If skin irritation persists, call a physician.
- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 10 minutes. Consult an eye specialist immediately. Go to an ophthalmic hospital if possible.
- If swallowed : Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.

4.2. Most important symptoms and effects, both acute and delayed

- Symptoms : See Section 11 for more detailed information on health effects and symptoms.
- Effects : irritant effects

CALCIUM CHLORIDE 77% FLAKES /BAG 25 KG**4.3. Indication of any immediate medical attention and special treatment needed**

Treatment : Treat symptomatically.

SECTION 5: Firefighting measures**5.1. Extinguishing media**

Suitable extinguishing media : The product itself does not burn. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media : High volume water jet

5.2. Special hazards arising from the substance or mixture

Specific hazards during firefighting : In case of fire hazardous decomposition products may be produced such as: Hydrogen chloride gas

5.3. Advice for firefighters

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus. Wear personal protective equipment.

Further advice : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Personal precautions : Avoid dust formation. Use personal protective equipment. Keep away unprotected persons. Ensure adequate ventilation. Avoid contact with skin and eyes.

6.2. Environmental precautions

Environmental precautions : Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration.

6.3. Methods and materials for containment and cleaning up

Methods and materials for containment and cleaning up : Use mechanical handling equipment. Keep in suitable, closed containers for disposal.

Further information : Treat recovered material as described in the section "Disposal considerations".

6.4. Reference to other sections

See Section 1 for emergency contact information.

See Section 8 for information on personal protective equipment.

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See Section 13 for waste treatment information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling : Avoid dust formation. Keep container tightly closed. Ensure adequate ventilation. Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Emergency eye wash fountains and emergency showers should be available in the immediate vicinity.

Hygiene measures : Keep away from food, drink and animal feedingstuffs. Smoking, eating and drinking should be prohibited in the application area. Wash hands before breaks and at the end of workday. Take off all contaminated clothing immediately.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Store in original container. Suitable materials for containers: polyethylene; Polypropylene; Unsuitable materials for containers: Aluminium

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Further information on storage conditions : Keep tightly closed in a dry and cool place.

Advice on common storage : Keep away from food, drink and animal feedingstuffs.

7.3. Specific end use(s)

Specific use(s) : Identified use: See table in front of appendix for a complete overview of identified uses.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Other Occupational Exposure Limit Values

(Additional) Information : Contains no substances with occupational exposure limit values.

Component:	calcium chloride	CAS-No. 10043-52-4
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Derived No Effect Level (DNEL)/Derived Minimal Effect Level (DMEL)

DNEL
Workers, Acute - local effects, Inhalation : 10 mg/m³

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DNEL		
Workers, Long-term - local effects, Inhalation	:	5 mg/m ³
DNEL		
Consumers, Acute - local effects, Inhalation	:	5 mg/m ³
DNEL		
Consumers, Long-term - local effects, Inhalation	:	2,5 mg/m ³

Predicted No Effect Concentration (PNEC)

No PNEC value was derived. :

8.2. Exposure controls**Appropriate engineering controls**

Refer to protective measures listed in sections 7 and 8.

Personal protective equipment*Respiratory protection*

Advice : Required if dust is released
Respiratory protection complying with EN 141.
Recommended Filter type:
Particle filter:P2
Particle filter:P3

Hand protection

Advice : Protective gloves complying with EN 374.
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves.
Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.
Protective gloves should be replaced at first signs of wear.

Material : Natural Rubber
Break through time : >= 480 min
Glove thickness : 0,5 mm

Material : polychloroprene
Break through time : >= 480 min
Glove thickness : 0,5 mm

Material : Nitrile rubber
Break through time : >= 480 min

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Glove thickness : 0,35 mm

Material : butyl-rubber
Break through time : >= 480 min
Glove thickness : 0,5 mm

Material : Fluorinated rubber
Break through time : >= 480 min
Glove thickness : 0,4 mm

Material : Polyvinylchloride
Break through time : >= 480 min
Glove thickness : 0,5 mm

Eye protection

Advice : Safety goggles

Skin and body protection

Advice : Wear personal protective equipment.

Environmental exposure controls

General advice : Do not flush into surface water or sanitary sewer system.
Avoid subsoil penetration.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Form : solid
Colour : white
Odour : odourless
Odour Threshold : Not applicable
pH : ca. 7 - 11 (100 g/l ; 20 °C)
Freezing point/range : 782 °C
Boiling point/boiling range : 1.670 °C
Flash point : Not applicable
Evaporation rate : Not applicable
Flammability (solid, gas) : Not applicable

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Upper explosion limit	: Not applicable
Lower explosion limit	: Not applicable
Vapour pressure	: 0,1 Pa (20 °C)
Relative vapour density	: No data available
Density	: 2,15 g/cm ³ (20 °C)
Water solubility	: 740 g/l (20 °C)
Partition coefficient: n-octanol/water	: Not applicable
Auto-ignition temperature	: No data available
Thermal decomposition	: > 772 °C
Viscosity, dynamic	: Not applicable
Viscosity, kinematic	: Not applicable
Explosive properties	: EU legislation: Not explosive
Explosivity	: Product is not explosive.
Oxidizing properties	: No data available

9.2. Other information

Bulk density	: 1.155 - 1.420 kg/m ³ (20 °C)
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SECTION 10: Stability and reactivity**10.1. Reactivity**

Advice	: No decomposition if stored and applied as directed.
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10.2. Chemical stability

Advice	: Stable under recommended storage conditions.
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10.3. Possibility of hazardous reactions

Hazardous reactions	: No dangerous reaction known under conditions of normal use.
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10.4. Conditions to avoid

Conditions to avoid	: Exposure to moisture Product is hygroscopic.
Thermal decomposition	: > 772 °C

10.5. Incompatible materials

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Materials to avoid : Strong reducing agents, Strong oxidizing agents

10.6. Hazardous decomposition products

Hazardous decomposition products : Fire may cause evolution of: Irritant gases/vapours

SECTION 11: Toxicological information**11.1. Information on toxicological effects****Data for the product****Acute toxicity****Oral**

Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

Inhalation

Inhalation of high concentration may cause mechanical overstraining of mucous membranes.

Irritation**Skin**

Result : Prolonged skin contact may cause skin irritation.

Eyes

Result : Causes serious eye irritation.

Component: calcium chloride CAS-No. 10043-52-4

Acute toxicity**Oral**

LD50 Oral : 2120 mg/kg body weight(Rat, male and female) (OECD Test Guideline 401)

Inhalation

No data available

Dermal

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LD50 Dermal : > 5000 mg/kg body weight(Rabbit, male and female)

Irritation
Skin

Result : No skin irritation (Rabbit) (OECD Test Guideline 404)

Eyes

Result : Irritating to eyes. (Rabbit) (OECD Test Guideline 405)

Sensitisation

Result : Study scientifically not justified.

CMR effects
Carcinogenicity

It dissociates into ions that are present physiologically in relatively high levels in vertebrates. Therefore, a study is considered (scientifically) unnecessary.

CMR Properties

Carcinogenicity : Study scientifically not justified.
 Mutagenicity : In vitro tests did not show mutagenic effects
 Teratogenicity : Did not show teratogenic effects in animal experiments.
 Reproductive toxicity : Study scientifically not justified.

Teratogenicity

NOAEL : 169 mg/kg
 Maternal (Rabbit)(OECD Test Guideline 414)

Specific Target Organ Toxicity
Single exposure

Remarks : The substance or mixture is not classified as specific target organ toxicant, single exposure.

Repeated exposure

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Remarks : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Other toxic properties
Repeated dose toxicity

; It dissociates into ions that are present physiologically in relatively high levels in vertebrates. Therefore, a study is considered (scientifically) unnecessary.

Aspiration hazard

Not applicable,

SECTION 12: Ecological information
12.1. Toxicity

Component:	calcium chloride	CAS-No. 10043-52-4
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Acute toxicity
Fish

LC50 : 4.630 mg/l (Pimephales promelas (fathead minnow); 96 h) (static test; EPA 600/4-90/027)

Toxicity to daphnia and other aquatic invertebrates

NOEC : 2.000 mg/l (Daphnia magna; 48 h) (static test; OECD Test Guideline 202)

LC50 : 2.400 mg/l (Daphnia magna; 48 h) (static test; OECD Test Guideline 202)

algae

EC50 : 2900 mg/l (Pseudokirchneriella subcapitata (green algae); 72 h) (OECD Test Guideline 201)

Bacteria

: Study scientifically unjustified.

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12.2. Persistence and degradability

Component:	calcium chloride	CAS-No. 10043-52-4
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Persistence and degradability
Persistence

Result : (Related to: Water) decomposition by hydrolysis.

Biodegradability

Result : The methods for determining the biological degradability are not applicable to inorganic substances.

12.3. Bioaccumulative potential

Component:	calcium chloride	CAS-No. 10043-52-4
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Bioaccumulation

Result : Bioaccumulation is not expected.

12.4. Mobility in soil

Component:	calcium chloride	CAS-No. 10043-52-4
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Mobility

Water : The product is water soluble.

12.5. Results of PBT and vPvB assessment

Component:	calcium chloride	CAS-No. 10043-52-4
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Results of PBT and vPvB assessment

Result : The PBT or vPvB criteria of Annex XIII to the REACH Regulation does not apply to inorganic substances.

12.6. Other adverse effects
Data for the product
Additional ecological information

Result : Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration.

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Result : Do not flush into surface water or sanitary sewer system.
Avoid subsoil penetration.

SECTION 13: Disposal considerations**13.1. Waste treatment methods**

- Product : Eliminate waste in conditions authorized by the regulations. Store waste in containers provided for this purpose. Do not dump in drains, water sheets or the ground.
- Contaminated packaging : Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning. If recycling is not practicable, dispose of in compliance with local regulations.
- European Waste Catalogue Number : No waste code according to the European Waste Catalogue can be assigned for this product, as the intended use dictates the assignment. The waste code is established in consultation with the regional waste disposer.

SECTION 14: Transport information

Not dangerous goods for ADR, RID, IMDG and IATA.

14.1. UN number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

Not applicable.

14.4. Packaging group

Not applicable.

14.5. Environmental hazards

Not applicable.

14.6. Special precautions for user

Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

IMDG : Not applicable.

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SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Data for the product

EU. REACH, Annex XVII, : Point Nos.: , 3; Listed
Marketing and Use
Restrictions (Regulation
1907/2006/EC)

Other regulations : Only persons, who are thoroughly instructed in the dangerous properties and the necessary safety precautions of the substance, are allowed to work with it.

Component:	calcium chloride	CAS-No. 10043-52-4
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EU. Chemicals Subject : ; Not listed
to PIC Procedure:
Regulation 649/2012/EU
on export and import of
dangerous chemicals, as
amended

EU. REACH, Annex XVII, : ; The substance/mixture does not fall under this legislation.
Marketing and Use
Restrictions (Regulation
1907/2006/EC)

EU. Directive : ; The substance/mixture does not fall under this legislation.
2012/18/EU (SEVESO
III) on major accident
hazards involving
dangerous substances,
Annex I

Notification status calcium chloride:

Regulatory List	Notification	Notification number
AICS	YES	
DSL	YES	
EINECS	YES	233-140-8
ENCS (JP)	YES	(1)-176
IECSC	YES	
INSQ	YES	

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ISHL (JP)	YES	(1)-176
KECI (KR)	YES	KE-04496
NZIOC	YES	HSR003389
ONT INV	YES	
PHARM (JP)	YES	
PICCS (PH)	YES	
TCSI	YES	
TH INV	YES	2827.20
TH INV	YES	55-1-00071
TSCA	YES	
VN INV	YES	

15.2. Chemical safety assessment

A Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

H319 Causes serious eye irritation.

Abbreviations and Acronyms

AU AIICL	Australia. Industrial Chemicals Act (AIIC) List
BCF	bioconcentration factor
BOD	biochemical oxygen demand
CAS	Chemical Abstracts Service
CLP	Classification, Labelling and Packaging
CMR	carcinogenic, mutagenic or toxic to reproduction
COD	chemical oxygen demand
DNEL	derived no-effect level
DSL	Canada. Environmental Protection Act, Domestic Substances List
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
ENCS (JP)	Japan. Kashin-Hou Law List
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
IECSC	China. Inventory of Existing Chemical Substances
INSQ	Mexico. National Inventory of Chemical Substances
ISHL (JP)	Japan. Inventory of Industrial Safety & Health
KECI (KR)	Korea. Existing Chemicals Inventory
LC50	median lethal concentration
LOAEC	lowest observed adverse effect concentration
LOAEL	lowest observed adverse effect level

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LOEL	lowest observed effect level
NDSL	Canada. Environmental Protection Act. Non-Domestic Substances List
NLP	no-longer polymer
NOAEC	no observed adverse effect concentration
NOAEL	no observed adverse effect level
NOEC	no observed effect concentration
NOEL	no observed effect level
NZIOC	New Zealand. Inventory of Chemicals
OECD	Organisation for Economic Cooperation and Development

Further information

- Key literature references : Supplier information and data from the "Database of registered substances" of the European Chemicals Agency (ECHA) were used to create this safety data sheet.
- Methods used for product classification : The classification for human health, physical and chemical hazards and environmental hazards were derived from a combination of calculation methods and if available test data.
- Hints for trainings : The workers have to be trained regularly on the safe handling of the products based on the information provided in the Safety Data Sheet and the local conditions of the workplace. National regulations for the training of workers in the handling of hazardous materials must be adhered to.
- Other information : The information provided in this Safety Data Sheet is correct to our knowledge at the date of its revision. The information given only describes the products with regard to safety arrangements and is not to be considered as a warranty or quality specification and does not constitute a legal relationship.
The information contained in this Safety Data Sheet relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

|| Indicates updated section.

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No.	Short title	Main User Group (SU)	Sector of Use (SU)	Product Category (PC)	Process Category (PROC)	Environmental Release Category (ERC)	Article Category (AC)	Specified
1	Use of low dusty solids	3	0, 1, 2a, 4, 5, 6b, 8, 9, 10, 11, 12, 13, 14, 15, 19, 20	NA	1, 2, 3, 4, 5, 6, 7, 8a, 8b, 9, 10, 13	1, 2, 4, 6a	NA	ES1656
2	Use of low dusty solids	22	0, 1, 2a, 4, 5, 6b, 8, 9, 10, 11, 12, 13, 14, 15, 19, 20	NA	1, 2, 3, 4, 5, 6, 8a, 8b, 9, 10, 11, 13	8a, 8d	NA	ES1658

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1. Short title of Exposure Scenario 1: Use of low dusty solids

Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Sectors of end-use	<p>SU0: Other</p> <p>SU1: Agriculture, forestry, fishery</p> <p>SU2a: Mining, (without offshore industries)</p> <p>SU4: Manufacture of food products</p> <p>SU5: Manufacture of textiles, leather, fur</p> <p>SU6b: Manufacture of pulp, paper and paper products</p> <p>SU8: Manufacture of bulk, large scale chemicals (including petroleum products)</p> <p>SU9: Manufacture of fine chemicals</p> <p>SU 10: Formulation [mixing] of preparations and/ or re-packaging (excluding alloys)</p> <p>SU11: Manufacture of rubber products</p> <p>SU12: Manufacture of plastics products, including compounding and conversion</p> <p>SU13: Manufacture of other non-metallic mineral products, e.g. plasters, cement</p> <p>SU14: Manufacture of basic metals, including alloys</p> <p>SU15: Manufacture of fabricated metal products, except machinery and equipment</p> <p>SU19: Building and construction work</p> <p>SU20: Health services</p>
Process categories	<p>PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions</p> <p>PROC2: Use in closed, continuous process with occasional controlled exposure</p> <p>PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition</p> <p>PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises</p> <p>PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact)</p> <p>PROC6: Calendering operations</p> <p>PROC7: Industrial spraying</p> <p>PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities</p> <p>PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities</p> <p>PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)</p> <p>PROC10: Roller application or brushing</p> <p>PROC13: Treatment of articles by dipping and pouring</p>
Environmental Release Categories	<p>ERC1: Manufacture of substances</p> <p>ERC2: Formulation of preparations</p> <p>ERC4: Industrial use of processing aids in processes and products, not becoming part of articles</p> <p>ERC6a: Industrial use resulting in manufacture of another substance (use of intermediates)</p>
Activity	Note: this Exposure Scenario is only relevant for an appropriated use according to the quality grade of the substance delivered

2.1 Contributing scenario controlling environmental exposure for: ERC1, ERC2, ERC4, ERC6a

As no environmental hazard was identified no environmental related exposure assessment and risk characterization was performed

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC5, PROC6, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13

Product characteristics	Concentration of the Substance in	Covers percentage substance in the product up to 100 %.
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	Mixture/Article	
	Physical Form (at time of use)	Solid, low dustiness
Frequency and duration of use	Covers daily exposures up to 8 hours	
Other operational conditions affecting workers exposure	Assumes use at not more than 20°C above ambient temperature.	
Technical conditions and measures to control dispersion from source towards the worker	General measures applicable to all activities	Clean up contamination/spills as soon as they occur.
Organisational measures to prevent /limit releases, dispersion and exposure	General measures applicable to all activities	Provide basic employee training to prevent /minimise exposures and to report any skin problems that may develop.
Conditions and measures related to personal protection, hygiene and health evaluation	General measures applicable to all activities	Avoid direct skin contact with product. Wear suitable gloves tested to EN374 during the activities where the skin contact is possible. Wash off any skin contamination immediately. Use suitable eye protection.

3. Exposure estimation and reference to its source

Environment

No exposure assessment presented for the environment.

Workers

PROC1, PROC2, PROC3, PROC4, PROC5, PROC6, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13:
ECETOC TRA

Contributing Scenario	Specific conditions	Exposure routes	Level of Exposure	RCR
PROC1, PROC2, PROC3, PROC4, PROC5, PROC6, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13	worst-case	Worker - inhalative, long-term - systemic	1,00mg/m ³	0,20
PROC1, PROC2, PROC3, PROC4, PROC5, PROC6, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13	worst-case	Worker - inhalative, long-term - local	2,00mg/m ³	0,20

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

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

For further information on the assessment method, see: <http://www.ecetoc.org/tra>

Only properly trained persons shall make use of scaling methods while checking whether the OC and RMM are within the boundaries set by the ES

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Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

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1. Short title of Exposure Scenario 2: Use of low dusty solids

Main User Groups	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Sectors of end-use	<p>SU0: Other</p> <p>SU1: Agriculture, forestry, fishery</p> <p>SU2a: Mining, (without offshore industries)</p> <p>SU4: Manufacture of food products</p> <p>SU5: Manufacture of textiles, leather, fur</p> <p>SU6b: Manufacture of pulp, paper and paper products</p> <p>SU8: Manufacture of bulk, large scale chemicals (including petroleum products)</p> <p>SU9: Manufacture of fine chemicals</p> <p>SU 10: Formulation [mixing] of preparations and/ or re-packaging (excluding alloys)</p> <p>SU11: Manufacture of rubber products</p> <p>SU12: Manufacture of plastics products, including compounding and conversion</p> <p>SU13: Manufacture of other non-metallic mineral products, e.g. plasters, cement</p> <p>SU14: Manufacture of basic metals, including alloys</p> <p>SU15: Manufacture of fabricated metal products, except machinery and equipment</p> <p>SU19: Building and construction work</p> <p>SU20: Health services</p>
Process categories	<p>PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions</p> <p>PROC2: Use in closed, continuous process with occasional controlled exposure</p> <p>PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition</p> <p>PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises</p> <p>PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact)</p> <p>PROC6: Calendaring operations</p> <p>PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities</p> <p>PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities</p> <p>PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)</p> <p>PROC10: Roller application or brushing</p> <p>PROC11: Non industrial spraying</p> <p>PROC13: Treatment of articles by dipping and pouring</p>
Environmental Release Categories	<p>ERC8a: Wide dispersive indoor use of processing aids in open systems</p> <p>ERC8d: Wide dispersive outdoor use of processing aids in open systems</p>
Activity	Note: this Exposure Scenario is only relevant for an appropriated use according to the quality grade of the substance delivered

2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8d

As no environmental hazard was identified no environmental related exposure assessment and risk characterization was performed

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC5, PROC6, PROC8a, PROC8b, PROC9, PROC10, PROC11, PROC13

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 %.
	Physical Form (at time of use)	Solid, low dustiness

CALCIUM CHLORIDE 77% FLAKES /BAG 25 KG

Frequency and duration of use	Covers daily exposures up to 8 hours	
Other operational conditions affecting workers exposure	Assumes use at not more than 20°C above ambient temperature.	
Technical conditions and measures to control dispersion from source towards the worker	General measures applicable to all activities	Clean up contamination/spills as soon as they occur.
Organisational measures to prevent /limit releases, dispersion and exposure	General measures applicable to all activities	Provide basic employee training to prevent/minimize exposures
Conditions and measures related to personal protection, hygiene and health evaluation	General measures applicable to all activities	Avoid direct skin contact with product. Wear suitable gloves tested to EN374 during the activities where the skin contact is possible. Wash off any skin contamination immediately. Use suitable eye protection.

3. Exposure estimation and reference to its source

Environment

No exposure assessment presented for the environment.

Workers

PROC1, PROC2, PROC3, PROC4, PROC5, PROC6, PROC8a, PROC8b, PROC9, PROC10, PROC11, PROC13:
ECETOC TRA

Contributing Scenario	Specific conditions	Exposure routes	Level of Exposure	RCR
PROC1, PROC2, PROC3, PROC4, PROC5, PROC6, PROC8a, PROC8b, PROC9, PROC10, PROC11, PROC13	worst-case	Worker - inhalative, long-term - local	2,00mg/m ³	0,20
PROC1, PROC2, PROC3, PROC4, PROC5, PROC6, PROC8a, PROC8b, PROC9, PROC10, PROC11, PROC13	worst-case	Worker - inhalative, long-term - systemic	1,00mg/m ³	0,20

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

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

For further information on the assessment method, see: <http://www.ecetoc.org/tra>

Only properly trained persons shall make use of scaling methods while checking whether the OC and RMM are within the boundaries set by the ES

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

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