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Safety data sheet

BASF safety data sheet. This is a translation of the country-specific safety data sheet into a language other than that required by law. This document does not replace the safety data sheet provided according to Regulation (EC) No 1907/2006.
Date / Revised: 12.04.2023 Version: 2.0
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Date / First version: 16.12.2022
Product: **Ammonium bicarbonate H Food Grade**
(ID no. 30046446/SDS_GEN_DE/EN)
Date of print 05.03.2024

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

1.1. Product identifier

Ammonium bicarbonate H Food Grade

UFI: SRDQ-XF5H-400F-EN35

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

Relevant identified uses: food additive(s)
Recommended use: process chemical, food additive(s), Raw material, propellant, Laboratory chemicals

For the detailed identified uses of the product see appendix of the safety data sheet.

1.3. Details of the supplier of the safety data sheet

Company:
BASF SE
67056 Ludwigshafen
GERMANY
Division Monomers

Telephone: +49 621 60 42737
E-mail address: pss.monomers@basf.com

1.4. Emergency telephone number

International emergency number:
Telephone: +49 180 2273-112

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

For the classification of the mixture the following methods have been applied: extrapolation on the concentration levels of the hazardous substances, on basis of test results and after evaluation of experts. The methodologies used are mentioned at the respective test results.

According to Regulation (EC) No 1272/2008 [CLP]

Acute Tox. 4 (oral) H302 Harmful if swallowed.

For the classifications not written out in full in this section the full text can be found in section 16.

2.2. Label elements

According to Regulation (EC) No 1272/2008 [CLP]

Pictogram:

Signal Word:

Warning

Hazard Statement:

H302	Harmful if swallowed.

Precautionary Statements (Prevention):

P270	Do not eat, drink or smoke when using this product.
P264	Wash contaminated body parts thoroughly after handling.

Precautionary Statements (Response):

P301 + P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P330	Rinse mouth.

Precautionary Statements (Disposal):

P501	Dispose of contents and container to hazardous or special waste collection point.

Hazard determining component(s) for labelling: Ammonium hydrogencarbonate

2.3. Other hazards

According to Regulation (EC) No 1272/2008 [CLP]

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.
No specific dangers known, if the regulations/notes for storage and handling are considered.
The product does not contain a substance above legal limits fulfilling the PBT (persistent/bioaccumulative/toxic) criteria or the vPvB (very persistent/very bioaccumulative) criteria.

Product does not contain a substance above legal limits included in the list established in accordance with Article 59(1) of Regulation (EC) No 1907/2006 for having endocrine disrupting properties or is identified to have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

SECTION 3: Composition/Information on Ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Chemical nature

Ammonium hydrogencarbonate
Contains:free flowing agent, anticaking agent

Regulatory relevant ingredients

Ammonium hydrogencarbonate

Content (W/W): >= 99 % - <= 100 % CAS Number: 1066-33-7 EC-Number: 213-911-5 REACH registration number: 01-2119486970-26	Acute Tox. 4 (oral) H302

For the classifications not written out in full in this section, including the hazard classes and the hazard statements, the full text is listed in section 16.

SECTION 4: First-Aid Measures

4.1. Description of first aid measures

If inhaled:
After inhalation of decomposition products: Keep patient calm, remove to fresh air, seek medical attention.

On skin contact:
Wash thoroughly with soap and water

On contact with eyes:
Wash affected eyes for at least 15 minutes under running water with eyelids held open.

On ingestion:
Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

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

Symptoms: Overexposure may cause:, vomiting, dyspnea, nausea, coughing

4.3. Indication of any immediate medical attention and special treatment needed

Treatment: After inhalation of decomposition products: Pulmonary odema prophylaxis. Treat according to symptoms (decontamination, vital functions), no known specific antidote, administer corticosteroid dose aerosol to prevent pulmonary odema.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing media

Suitable extinguishing media:
water spray, carbon dioxide, foam

5.2. Special hazards arising from the substance or mixture

Endangering substances: ammonia, anhydrous, Carbon dioxide
Advice: The substances/groups of substances mentioned can be released in case of fire.

5.3. Advice for fire-fighters

Further information:
Product itself is non-combustible; fire extinguishing method of surrounding areas must be considered.

SECTION 6: Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures

Breathing protection required.

6.2. Environmental precautions

Prevent entry into drains and surface waters. Ensure compliance with local regulations before discharging into effluent treatment plants.

6.3. Methods and material for containment and cleaning up

For residues: Dampen, pick up mechanically and dispose of.

6.4. Reference to other sections

Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

SECTION 7: Handling and Storage

7.1. Precautions for safe handling

No special measures necessary provided product is used correctly. Avoid dust formation. Ensure suitable air extract/ventilation on process machinery and transportation equipment. Ensure thorough ventilation of stores and work areas. The temperatures which must be avoided are to be considered. Sealed containers should be protected against heat as this results in pressure build-up. Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Segregate from nitrites and alkaline substances. Storage and transport only combined with food materials or food additives. Separate from flavoring agents. Segregate from strong acids. Segregate from strong bases.
Do not store with: Sodium nitrate

Suitable materials for containers: High density polyethylene (HDPE), Low density polyethylene (LDPE), Stainless steel 1.4541, Stainless steel 1.4571
Further information on storage conditions: Keep container tightly closed and dry. Keep only in the original container in a cool, well-ventilated place. Keep at temperature not exceeding 30 °C.

Storage class according to TRGS 510 (originally VCI, Germany): (13) Non-combustible solids

Protect from temperatures above:30 °C
Changes in the properties of the product may occur if substance/product is stored above indicated temperature for extended periods of time.

7.3. Specific end use(s)

See exposure scenario(s) in the attachment to this safety data sheet.

SECTION 8: Exposure Controls/Personal Protection

8.1. Control parameters

Components with occupational exposure limits

The substance mentioned develops if the regulation/notes for storage and handling are not observed. When the product is handled at elevated temperature, the occupational exposure limit should be noted.

124-38-9: Carbon dioxide

TWA value 9.000 mg/m3 ; 5.000 ppm (OEL (EU))
indicative
Short Term Exposure Classification: (TRGS 900 (DE))
Category II: Substances with a resorptive effect
OEL 9.100 mg/m3 ; 5.000 ppm (TRGS 900 (DE))
Ceiling limit value/factor: 2

7664-41-7: ammonia, anhydrous
STEL value 36 mg/m3 ; 50 ppm (OEL (EU))
indicative
TWA value 14 mg/m3 ; 20 ppm (OEL (EU))
indicative
Short Term Exposure Classification: (TRGS 900 (DE))
Category I: Substances for which the localized effect has an assigned exposure limit or for substances with a sensitizing effect in respiratory passages
OEL 14 mg/m3 ; 20 ppm (TRGS 900 (DE))
Ceiling limit value/factor: 2
If the occupational exposure limit value (AGW) and the biological limit value (BGW) are complied with, there should be no risk of damage for the unborn child (see TRGS 900, Number 2.7)

No substance specific occupational exposure limits known.

PNEC

freshwater: 0,37 mg/l

marine water: 0,037 mg/l

intermittent release: 0,63 mg/l

sediment (freshwater): 0,1332 mg/kg

sediment (marine water): 0,01332 mg/kg

soil: 74,9 mg/kg

STP: 1347 mg/l

DNEL

worker:
Long-term exposure - systemic and local effects, Inhalation: 62,5 mg/m3

worker:
Long-term exposure- systemic effects, dermal: 57 mg/kg

worker:
Short-term exposure - systemic and local effects, Inhalation: 160,7 mg/m3

consumer:
Long-term exposure - systemic and local effects, Inhalation: 13,33 mg/m3

consumer:
Short-term exposure - systemic and local effects, Inhalation: 143,91 mg/m3

consumer:
Long-term exposure- systemic effects, dermal: 34,2 mg/kg

8.2. Exposure controls

Personal protective equipment

Respiratory protection:
Breathing protection if gases/vapours are formed. Gas filter for gases/vapours of inorganic compounds (e.g. EN 14387 Type B) Gas filter for gases/vapours of alkaline compounds such as ammonia, amines (e.g. EN 14387 Type K). Breathing protection if dusts are formed. Combination filter for gases/vapours of organic, inorganic, acid inorganic, alkaline compounds and toxic particles (e. g. EN 14387 Type ABEK-P3) Suitable respiratory protection for higher concentrations or long-term effect: Self-contained breathing apparatus.

Hand protection:
Suitable chemical resistant safety gloves (EN ISO 374-1) also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN ISO 374-1): E.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), butyl rubber (0.7 mm) etc. Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to many conditions (e.g. temperature) it must be considered, that the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing. Manufacturer's directions for use should be observed because of great diversity of types.

Eye protection:
Safety glasses with side-shields (frame goggles) (e.g. EN 166)

Body protection:
Body protection must be chosen based on level of activity and exposure.

General safety and hygiene measures

Do not breathe dust. At the end of the shift the skin should be cleaned and skin-care agents applied.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

State of matter:	solid
Form:	crystalline, powder
Colour:	white
Odour:	ammonia-like
Odour threshold:	
	not determined

Melting point:		
	The substance / product decomposes.	
Boiling range:		
	Study technically not feasible., The substance / product decomposes therefore not determined.	
Flammability:	not flammable	(other)
Lower explosion limit:		
	For solids not relevant for classification and labelling.	
Upper explosion limit:		
	For solids not relevant for classification and labelling.	
Flash point:		
	not applicable, the product is a solid	
Self-ignition temperature:		Test type: Self-ignition at high temperatures.
	not self-igniting	
Thermal decomposition:	> 30 °C To avoid thermal decomposition, do not overheat.	
pH value:	7,7 (10 %(m), 20 °C)	(pH Meter)
Viscosity, dynamic:		
	not applicable	
Solubility in water:	Literature data. 220 g/l (20 °C)	(other)
Partitioning coefficient n-octanol/water (log Kow):	-2,4 (25 °C; pH value: 7,7)	
Vapour pressure:	79 mbar (25,4 °C) Literature data. 526 mbar (50 °C) Literature data. 1.086 mbar (59,25 °C) Literature data.	
Density:	1,58 g/cm3 (20 °C) Literature data.	

Particle characteristics

Particle size distribution:	250 - 400 µm	(D50, measured)

9.2. Other information

Information with regard to physical hazard classes

Explosives		
Explosion hazard:	not explosive	(other)
Oxidizing properties		
Fire promoting properties:	not fire-propagating	(other)
Pyrophoric properties		
Self-ignition temperature:		Test type: Spontaneous self-ignition at room-temperature.
	Based on its structural properties the product is not classified as self-igniting.	
Self-heating substances and mixtures		
Self heating ability:	It is not a substance capable of spontaneous heating.	

Other safety characteristics

Bulk density:	approx. 850 kg/m3	
pKA:	6,49 (20 °C)	(OECD Guideline 112)
Surface tension:	Based on chemical structure, surface activity is not to be expected.	
Evaporation rate:	negligible, The product is a non-volatile solid.	

SECTION 10: Stability and Reactivity

10.1. Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

10.2. Chemical stability

The product is stable if stored and handled as prescribed/indicated. Slow decomposition possible.

10.3. Possibility of hazardous reactions

Exothermic reaction. Reacts with nitrates. Reacts with nitrites. Reacts with strong alkalies.

10.4. Conditions to avoid

See SDS section 7 - Handling and storage.
Avoid heat.

10.5. Incompatible materials

Substances to avoid:
nitrites, nitrates, strong bases, strong acids

10.6. Hazardous decomposition products

Hazardous decomposition products:
ammonia, anhydrous, Carbon dioxide

SECTION 11: Toxicological Information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Assessment of acute toxicity:

Of moderate toxicity after single ingestion. Virtually nontoxic after a single skin contact. Virtually nontoxic by inhalation. The product has not been fully tested. The statements have been derived in parts from products of a similar structure or composition.

Experimental/calculated data:

LD50 rat (oral): approx. 1.576 mg/kg (BASF-Test)
LC50 rat (by inhalation): > 4,74 mg/l 4,5 h (other)
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition. An aerosol was tested.
LD50 rat (dermal): > 2.000 mg/kg (other)
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Irritation

Assessment of irritating effects:

Not irritating to the eyes. Not irritating to the skin. The product has not been fully tested. The statements have been derived in parts from products of a similar structure or composition.

Experimental/calculated data:

Skin corrosion/irritation

In vitro assay: non-irritant (OECD Guideline 431)

Skin corrosion/irritation

rabbit: non-irritant (other)
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Serious eye damage/irritation

In vitro assay: no irreversible damage (HET-CAM test in vitro)
Serious eye damage/irritation
rabbit: non-irritant (other)
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Respiratory/Skin sensitization

Assessment of sensitization:

Skin sensitizing effects were not observed in animal studies. The product has not been fully tested. The statements have been derived in parts from products of a similar structure or composition. The chemical structure does not suggest a sensitizing effect.

Experimental/calculated data:

Guinea pig maximization test guinea pig: Non-sensitizing. (other)
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Germ cell mutagenicity

Assessment of mutagenicity:

The substance was not mutagenic in bacteria. The substance was not mutagenic in mammalian cell culture.

Carcinogenicity

Assessment of carcinogenicity:
The whole of the information assessable provides no indication of a carcinogenic effect. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Reproductive toxicity

Assessment of reproduction toxicity:
Study scientifically not justified.

Developmental toxicity

Assessment of teratogenicity:

No indications of a developmental toxic / teratogenic effect were seen in animal studies. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Specific target organ toxicity (single exposure)

Assessment of STOT single:
Apart from effects causing lethality, no specific target organ toxicity was observed in experimental studies.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:

Repeated oral uptake of the substance did not cause substance-related effects. The product has not been fully tested. The statements have been derived in parts from products of a similar structure or composition.

Aspiration hazard

not applicable

Interactive effects

No data available.

11.2. Information on other hazards

Endocrine disrupting properties

The substance is not identified to have endocrine disrupting properties according to Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 nor is included in the Candidate List of substances of very high concern according to EU REACh Article 59 for having endocrine disrupting properties.

SECTION 12: Ecological Information

12.1. Toxicity

Assessment of aquatic toxicity:
Harmful to aquatic life. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.
Acutely harmful for aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

Toxicity to fish:
LC50 (96 h) 63,4 mg/l, Oncorhynchus mykiss (Fish test acute, Flow through.)

Aquatic invertebrates:
EC50 (48 h) 145,6 mg/l, Daphnia magna (Daphnia test acute, static)

Aquatic plants:
EC50 (120 h) approx. 1.900 mg/l (growth rate), Chlorella vulgaris (static)
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

EC50 (18 d) 3.231 mg/l (other), Chlorella vulgaris (static)
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Microorganisms/Effect on activated sludge:
EC10 (16 h) 1.347 mg/l, Pseudomonas putida (DIN 38412 Part 8, aquatic)

Chronic toxicity to fish:
EC10 (30 d) 6,3 mg/l, Lepomis macrochirus (other, Flow through.)

Chronic toxicity to aquatic invertebrates:
EC10 (70 d) 3,7 mg/l, Daphnia magna (other, semistatic)

Assessment of terrestrial toxicity:
No toxic effects have been observed in studies with soil living organisms.

Soil living organisms:
LC50 (14 d) 241 mg/kg, Eisenia foetida (other, artificial soil)
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Terrestrial plants:
No observed effect concentration (84 d) 749 mg/l, terrestrial plants (other)
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Other terrestrial non-mammals:
Study scientifically not justified.

12.2. Persistence and degradability

Assessment biodegradation and elimination (H2O):
Inorganic product which cannot be eliminated from water by biological purification processes. Can be oxidized to nitrate, or be reduced to nitrogen, by microorganisms.

Elimination information:
not applicable

Assessment of stability in water:
According to structural properties, hydrolysis is not expected/probable.

12.3. Bioaccumulative potential

Assessment bioaccumulation potential:
Accumulation in organisms is not to be expected.

Bioaccumulation potential:
Accumulation in organisms is not to be expected.

12.4. Mobility in soil

Assessment transport between environmental compartments:
Volatility: No data available. Study scientifically not justified.
Adsorption in soil: Adsorption to solid soil phase is not expected.

12.5. Results of PBT and vPvB assessment

The product does not fulfill the criteria for PBT (Persistent/bioaccumulative/toxic) and vPvB (very persistent/very bioaccumulative). Not applicable for inorganic substances.

12.6. Endocrine disrupting properties

The substance is not identified to have endocrine disrupting properties according to Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 nor is included in the Candidate List of substances of very high concern according to EU REACh Article 59 for having endocrine disrupting properties.

12.7. Other adverse effects

The substance is not listed in Regulation (EC) 1005/2009 on substances that deplete the ozone layer.

12.8. Additional information

Other ecotoxicological advice:
Do not release untreated into natural waters. At the present state of knowledge, no negative ecological effects are expected.

SECTION 13: Disposal Considerations

13.1. Waste treatment methods

Test for use in agriculture.

SECTION 14: Transport Information

Land transport

ADR

Not classified as a dangerous good under transport regulations

UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

RID

Not classified as a dangerous good under transport regulations

UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Inland waterway transport

ADN

Not classified as a dangerous good under transport regulations

UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user:	None known

Transport in inland waterway vessel
Not evaluated

Sea transport

IMDG

Not classified as a dangerous good under transport regulations

UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Air transport

IATA/ICAO

Not classified as a dangerous good under transport regulations

UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable

Environmental hazards:	Not applicable
Special precautions for user	None known

14.1. UN number or ID number
See corresponding entries for “UN number or ID number” for the respective regulations in the tables above.

14.2. UN proper shipping name
See corresponding entries for “UN proper shipping name” for the respective regulations in the tables above.

14.3. Transport hazard class(es)
See corresponding entries for “Transport hazard class(es)” for the respective regulations in the tables above.

14.4. Packing group
See corresponding entries for “Packing group” for the respective regulations in the tables above.

14.5. Environmental hazards
See corresponding entries for “Environmental hazards” for the respective regulations in the tables above.

14.6. Special precautions for user
See corresponding entries for “Special precautions for user” for the respective regulations in the tables above.

14.7. Maritime transport in bulk according to IMO instruments

Maritime transport in bulk is not intended.

Further information
Specific national features of transport regulations must be observed. They are to be found in the shipping documents.

SECTION 15: Regulatory Information

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

Hazardous Incident Ordinance (Germany):
Listed in above regulation: no

Directive 2012/18/EU - Control of Major Accident Hazards involving dangerous substances (EU):
Listed in above regulation: no

Water hazard class (§6 AwSV para.4 (Legal binding announcement of the substance in the Federal Gazette)): (1) Weakly water polluting.

15.2. Chemical Safety Assessment

Chemical Safety Assessment performed

SECTION 16: Other Information

Assessment of the hazard classes according to UN GHS criteria (most recent version)

Acute Tox. 4 (oral)
Aquatic Acute 3

Any other intended applications should be discussed with the manufacturer.

Full text of the classifications, including the hazard classes and the hazard statements, if mentioned in section 2 or 3:

Acute Tox.	Acute toxicity
H302	Harmful if swallowed.

Abbreviations
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road. ADN = The European Agreement concerning the International Carriage of Dangerous Goods by Inland waterways. ATE = Acute Toxicity Estimates. CAO = Cargo Aircraft Only. CAS = Chemical Abstract Service. CLP = Classification, Labelling and Packaging of substances and mixtures. DIN = German national organization for standardization. DNEL = Derived No Effect Level. EC50 = Effective concentration median for 50% of the population. EC = European Community. EN = European Standards. IARC = International Agency for Research on Cancer. IATA = International Air Transport Association. IBC-Code = Intermediate Bulk Container code. IMDG = International Maritime Dangerous Goods Code. ISO = International Organization for Standardization. STEL = Short-Term Exposure Limit. LC50 = Lethal concentration median for 50% of the population. LD50 = Lethal dose median for 50% of the population. TLV = Threshold Limit Value. MARPOL = The International Convention for the Prevention of Pollution from Ships. NEN = Dutch Norm. NOEC = No Observed Effect Concentration. OEL = Occupational Exposure Limit. OECD = Organization for Economic Cooperation and Development. PBT = Persistent, Bioaccumulative and Toxic. PNEC = Predicted No Effect Level. PPM = Parts per million. RID = The European Agreement concerning the International Carriage of Dangerous Goods by Rail. TWA = Time Weight Average. UN-number = UN number at transport. vPvB = very Persistent and very Bioaccumulative.

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. This safety data sheet is neither a Certificate of Analysis (CoA) nor technical data sheet and shall not be mistaken for a specification agreement. Identified uses in this safety data sheet do neither represent an agreement on the corresponding contractual quality of the substance/mixture nor a contractually designated use. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.

Vertical lines in the left hand margin indicate an amendment from the previous version.

Annex: Exposure Scenarios

Index

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1. Short title of exposure scenario

Production, Distribution of substance, Industrial applications
IS; IS; ERC1; PROC2, PROC9

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	PROC2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing). Use domain: industrial

Operational conditions	
Concentration of the substance	Ammonium hydrogencarbonate Content: >= 0 % - <= 100 %
Physical state	Solid – high Dustiness
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Exposed skin area	Palm of both hands (480 cm²)
Exposure estimate and reference to its source	
PROC2	
Assessment method	ECETOC TRA v2.0 Worker; modified version
	Worker - dermal, long-term - systemic
Exposure estimate	1,37 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,02
	The short-term exposure value corresponds to the long-term value.
PROC2	
Assessment method	ECETOC TRA v2.0 Worker; modified version
	Worker - inhalation, long-term - local und systemic
Exposure estimate	1 mg/m³
Risk Characterization Ratio (RCR)	0,02
	The short-term exposure value corresponds to the long-term value multiplied by a factor of 2.
PROC9	
Assessment method	ECETOC TRA v2.0 Worker; modified version
	Worker - dermal, long-term - systemic
Exposure estimate	6,86 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,12
	The short-term exposure value corresponds to the long-term value.
PROC9	
Assessment method	ECETOC TRA v2.0 Worker; modified version
	Worker - inhalation, long-term - local und systemic
Exposure estimate	20 mg/m³
Risk Characterization Ratio (RCR)	0,32
	The short-term exposure value corresponds to the long-term value multiplied by a factor of 2.
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	ERC1: Manufacture of the substance As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

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2. Short title of exposure scenario

Formulation & (re)packing of substances and mixtures, Industrial applications
IS; IS, SU10; ERC2, ERC5, ERC7, ERC8a; PROC4, PROC5, PROC8b, PROC9, PROC15, PROC19

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	PROC4: Chemical production where opportunity for exposure arises PROC5: Mixing or blending in batch processes PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing). PROC15: Use a laboratory reagent. PROC19: Manual activities involving hand contact Use domain: industrial
Operational conditions	
Concentration of the substance	Ammonium hydrogencarbonate Content: >= 0 % - <= 100 %
Physical state	Solid – high Dustiness
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Exposed skin area	Palm of both hands (480 cm²)
	Relevant for PROC 4 Relevant for PROC 5 Relevant for PROC 8b Relevant for PROC 9
Exposed skin area	Both hands and main part of the arms (1980 cm²)
	Relevant for PROC 19
Exposed skin area	Palm of one hand (240 cm²)
	Relevant for PROC 15
Risk Management Measures	
Wear chemically resistant gloves in combination with ‘basic’ employee training.	Effectiveness: 90 %
Relevant for PROC 19	
Exposure estimate and reference to its source	
PROC4, PROC8b, PROC9	
Assessment method	ECETOC TRA v2.0 Worker; modified version
	Worker - dermal, long-term - systemic

Exposure estimate	6,86 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,12
	The short-term exposure value corresponds to the long-term value.
PROC4, PROC5, PROC8b, PROC19	
Assessment method	ECETOC TRA v2.0 Worker; modified version
	Worker - inhalation, long-term - local und systemic
Exposure estimate	25 mg/m³
Risk Characterization Ratio (RCR)	0,4
	The short-term exposure value corresponds to the long-term value multiplied by a factor of 2.
PROC5	
Assessment method	ECETOC TRA v2.0 Worker; modified version
	Worker - dermal, long-term - systemic
Exposure estimate	13,71 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,24
	The short-term exposure value corresponds to the long-term value.
PROC9	
Assessment method	ECETOC TRA v2.0 Worker; modified version
	Worker - inhalation, long-term - local und systemic
Exposure estimate	20 mg/m³
Risk Characterization Ratio (RCR)	0,32
	The short-term exposure value corresponds to the long-term value multiplied by a factor of 2.
PROC15	
Assessment method	ECETOC TRA v2.0 Worker; modified version
	Worker - dermal, long-term - systemic
Exposure estimate	0,34 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,01
	The short-term exposure value corresponds to the long-term value.
PROC15	
Assessment method	ECETOC TRA v2.0 Worker; modified version
	Worker - inhalation, long-term - local und systemic
Exposure estimate	5 mg/m³
Risk Characterization Ratio (RCR)	0,08
	The short-term exposure value corresponds to the long-term value multiplied by a factor of 2.
PROC19	
Assessment method	ECETOC TRA v2.0 Worker; modified version, ECETOC TRA modified version: Use of gloves has been considered additionally.
	Worker - dermal, long-term - systemic
Exposure estimate	14,14 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,25
	The short-term exposure value corresponds to the long-term value.

Guidance to Downstream Users
For scaling see: http://www.ecetoc.org/tra

Contributing exposure scenario	
Use descriptors covered	ERC2: Formulation into mixture As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

Contributing exposure scenario	
Use descriptors covered	ERC5: Use at industrial site leading to inclusion into/onto article As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

Contributing exposure scenario	
Use descriptors covered	ERC7: Use of functional fluid at industrial site As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

Contributing exposure scenario	
Use descriptors covered	ERC8a: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

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3. Short title of exposure scenario

Formulation & (re)packing of substances and mixtures, Professional applications
PW; SU10, PW; ERC2, ERC5, ERC7, ERC8a; PROC4, PROC5, PROC8b, PROC9, PROC15, PROC19

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	PROC4: Chemical production where opportunity for exposure arises PROC5: Mixing or blending in batch processes PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC9: Transfer of substance or preparation into small containers

	(dedicated filling line, including weighing). PROC15: Use a laboratory reagent. PROC19: Manual activities involving hand contact Use domain: professional
Operational conditions	
Concentration of the substance	Ammonium hydrogencarbonate Content: >= 0 % - <= 100 %
Physical state	Solid – high Dustiness
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Exposed skin area	Palm of both hands (480 cm^2)
	Relevant for PROC 4 Relevant for PROC 5 Relevant for PROC 8b Relevant for PROC 9
Exposed skin area	Palm of one hand (240 cm^2)
	Relevant for PROC 15
Exposed skin area	Both hands and main part of the arms (1980 cm^2)
	Relevant for PROC 19
Risk Management Measures	
Provide extract ventilation to points where emissions occur (LEV).	Effectiveness: 80 %
Wear chemically resistant gloves in combination with ‘basic’ employee training.	Effectiveness: 90 %
Relevant for PROC 19	
Exposure estimate and reference to its source	
PROC4, PROC8b, PROC9	
Assessment method	ECETOC TRA v2.0 Worker; modified version, ECETOC TRA modified version: Reduction factor for local exhaust ventilation (LEV) has not been used for the calculation of dermal exposure estimates.
	Worker - dermal, long-term - systemic
Exposure estimate	6,86 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,12
	The short-term exposure value corresponds to the long-term value.
PROC4, PROC5, PROC8b, PROC19	
Assessment method	ECETOC TRA v2.0 Worker; modified version
	Worker - inhalation, long-term - local und systemic
Exposure estimate	10 mg/m^3
Risk Characterization Ratio (RCR)	0,16
	The short-term exposure value corresponds to the long-term value multiplied by a factor of 2.

PROC5	
Assessment method	ECETOC TRA v2.0 Worker; modified version, ECETOC TRA modified version: Reduction factor for local exhaust ventilation (LEV) has not been used for the calculation of dermal exposure estimates.
	Worker - dermal, long-term - systemic
Exposure estimate	13,71 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,24
	The short-term exposure value corresponds to the long-term value.
PROC9	
Assessment method	ECETOC TRA v2.0 Worker; modified version
	Worker - inhalation, long-term - local und systemic
Exposure estimate	20 mg/m³
Risk Characterization Ratio (RCR)	0,32
	The short-term exposure value corresponds to the long-term value multiplied by a factor of 2.
PROC15	
Assessment method	ECETOC TRA v2.0 Worker; modified version, ECETOC TRA modified version: Reduction factor for local exhaust ventilation (LEV) has not been used for the calculation of dermal exposure estimates.
	Worker - dermal, long-term - systemic
Exposure estimate	0,34 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,01
	The short-term exposure value corresponds to the long-term value.
PROC15	
Assessment method	ECETOC TRA v2.0 Worker; modified version
	Worker - inhalation, long-term - local und systemic
Exposure estimate	5 mg/m³
Risk Characterization Ratio (RCR)	0,08
	The short-term exposure value corresponds to the long-term value multiplied by a factor of 2.
PROC19	
Assessment method	ECETOC TRA v2.0 Worker; modified version, ECETOC TRA modified version: Reduction factor for local exhaust ventilation (LEV) has not been used for the calculation of dermal exposure estimates., ECETOC TRA modified version: Use of gloves has been considered additionally.
	Worker - dermal, long-term - systemic
Exposure estimate	14,14 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,25
	The short-term exposure value corresponds to the long-term value.
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	ERC2: Formulation into mixture As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

Contributing exposure scenario	
Use descriptors covered	ERC5: Use at industrial site leading to inclusion into/onto article As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

Contributing exposure scenario	
Use descriptors covered	ERC7: Use of functional fluid at industrial site As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

Contributing exposure scenario	
Use descriptors covered	ERC8a: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

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4. Short title of exposure scenario

Use as a Process chemical, Use as Reactive process agent, Industrial applications
IS; IS, SU4, SU5, SU6a, SU6b, SU8, SU9, SU11, SU12, SU13, SU14, SU18, SU20, C, PW, SU24; ERC1, ERC2, ERC3, ERC4, ERC5, ERC6a, ERC6b, ERC7, ERC8a, ERC8b, ERC8c, ERC8d; PROC3, PROC4, PROC5, PROC6, PROC7, PROC8b, PROC9, PROC10, PROC12, PROC13, PROC14, PROC15, PROC16, PROC19, PROC21, PROC23

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC4: Chemical production where opportunity for exposure arises PROC5: Mixing or blending in batch processes PROC6: Calendering operations

	PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing). PROC10: Roller application or brushing Use domain: industrial
Operational conditions	
Concentration of the substance	Ammonium hydrogencarbonate Content: >= 0 % - <= 100 %
Physical state	Solid – high Dustiness
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Exposed skin area	Palm of one hand (240 cm²)
	Relevant for PROC 3
Exposed skin area	Palm of both hands (480 cm²)
	Relevant for PROC 4 Relevant for PROC 5 Relevant for PROC 8b Relevant for PROC 9
Exposed skin area	Both hands (960 cm²)
	Relevant for PROC 6 Relevant for PROC 10
Exposure estimate and reference to its source	
PROC3	
Assessment method	ECETOC TRA v2.0 Worker; modified version
	Worker - dermal, long-term - systemic
Exposure estimate	0,34 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,01
	The short-term exposure value corresponds to the long-term value.
PROC3	
Assessment method	ECETOC TRA v2.0 Worker; modified version
	Worker - inhalation, long-term - local und systemic
Exposure estimate	1 mg/m³
Risk Characterization Ratio (RCR)	0,02
	The short-term exposure value corresponds to the long-term value multiplied by a factor of 2.
PROC4, PROC8b, PROC9	
Assessment method	ECETOC TRA v2.0 Worker; modified version
	Worker - dermal, long-term - systemic
Exposure estimate	6,86 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,12
	The short-term exposure value corresponds to the long-term value.
PROC4, PROC5, PROC6, PROC8b	

Assessment method	ECETOC TRA v2.0 Worker; modified version
	Worker - inhalation, long-term - local und systemic
Exposure estimate	25 mg/m³
Risk Characterization Ratio (RCR)	0,4
	The short-term exposure value corresponds to the long-term value multiplied by a factor of 2.
PROC5	
Assessment method	ECETOC TRA v2.0 Worker; modified version
	Worker - dermal, long-term - systemic
Exposure estimate	13,71 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,24
	The short-term exposure value corresponds to the long-term value.
PROC9	
Assessment method	ECETOC TRA v2.0 Worker; modified version
	Worker - inhalation, long-term - local und systemic
Exposure estimate	20 mg/m³
Risk Characterization Ratio (RCR)	0,32
	The short-term exposure value corresponds to the long-term value multiplied by a factor of 2.
PROC6	
Assessment method	ECETOC TRA v2.0 Worker; modified version
	Worker - dermal, long-term - systemic
Exposure estimate	5,49 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,1
	The short-term exposure value corresponds to the long-term value.
PROC10	
Assessment method	ECETOC TRA v2.0 Worker; modified version
	Worker - dermal, long-term - systemic
Exposure estimate	27,43 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,48
	The short-term exposure value corresponds to the long-term value.
PROC10	
Assessment method	ECETOC TRA v2.0 Worker; modified version
	Worker - inhalation, long-term - local und systemic
Exposure estimate	10 mg/m³
Risk Characterization Ratio (RCR)	0,16
	The short-term exposure value corresponds to the long-term value multiplied by a factor of 2.
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC7: Industrial spraying Use domain: industrial

Operational conditions	
Concentration of the substance	Ammonium hydrogencarbonate Content: >= 0 % - <= 90 %
Physical state	Solid
Duration and Frequency of activity	240 min 5 days per week
Indoor/Outdoor	Indoor
Room size	1.000 m3
Amounts used	Amount per use 0,3 l/min Relevant for inhalative exposure estimates
	Amount per use 0,08 kg/min Relevant for dermal exposure estimates
Risk Management Measures	
Regular inspection and maintenance of equipment and machines. Ensure that the task is being carried out outside the breathing zone of a worker (distance head-product greater than 1m). Clean equipment and the work area every day.	
Ensure mechanical ventilation is in place.	
Wear suitable coveralls to prevent exposure to the skin.	Effectiveness: 80 %
Use suitable chemically resistant gloves.	Effectiveness: 80 %
Exposure estimate and reference to its source	
Assessment method	RISKOFDERM v2.1
	Worker - dermal, long-term - systemic
Exposure estimate	17,49 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,31
	The exposure estimate represents the 75th percentile of the exposure distribution.
Assessment method	Advanced REACH Tool v1.0
	Worker - inhalation, long-term - local und systemic
Exposure estimate	3,1 mg/m³
Risk Characterization Ratio (RCR)	0,05
	The exposure estimate represents the 75th percentile of the exposure distribution.
Assessment method	RISKOFDERM v2.1
	Worker - dermal, short-term - systemic
Exposure estimate	51,89 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,91
	The exposure estimate represents the 90th percentile of the exposure distribution.
Assessment method	Advanced REACH Tool v1.0
	Worker- inhalation, short-term - local und systemic

Exposure estimate	5,90 mg/m³
Risk Characterization Ratio (RCR)	0,037
	The exposure estimate represents the 90th percentile of the exposure distribution.
Guidance to Downstream Users	
For scaling see: http://www.advancedreachtool.com For scaling see: http://www.tno.nl and search for "riskofderm".	

Contributing exposure scenario	
Use descriptors covered	PROC12: Use of blowing agents in manufacture of foam Use domain: industrial
Operational conditions	
Concentration of the substance	Ammonium hydrogencarbonate Content: >= 0 % - <= 100 %
Physical state	Solid, Extremely dusty
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Room size	1.000 m3
Exposed skin area	Palm of both hands (480 cm²)
Risk Management Measures	
Ensure that the task is being carried out outside the breathing zone of a worker (distance head-product greater than 1m). Regular inspection and maintenance of equipment and machines. Clean equipment and the work area every day.	
Ensure mechanical ventilation is in place.	
Provide extract ventilation to points where emissions occur (LEV).	Effectiveness: 70 %
Exposure estimate and reference to its source	
Assessment method	ECETOC TRA v2.0 Worker; modified version, ECETOC TRA modified version: Reduction factor for local exhaust ventilation (LEV) has not been used for the calculation of dermal exposure estimates.
	Worker - dermal, long-term - systemic
Exposure estimate	6,86 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,12
	The short-term exposure value corresponds to the long-term value.
Assessment method	Stoffenmanager v4.0
	Worker - inhalation, long-term - local und systemic
Exposure estimate	14,83 mg/m³
Risk Characterization Ratio (RCR)	0,24

	The exposure estimate represents the 75th percentile of the exposure distribution.
Assessment method	Stoffenmanager v4.0
	Worker- inhalation, short-term - local und systemic
Exposure estimate	42,33 mg/m³
Risk Characterization Ratio (RCR)	0,26
	The exposure estimate represents the 90th percentile of the exposure distribution.
Guidance to Downstream Users	
For scaling see: https://www.stoffenmanager.nl/default.aspx For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC13: Treatment of articles by dipping and pouring. PROC14: Tabletting, compression, extrusion, pelletisation, granulation PROC15: Use a laboratory reagent. PROC16: Use of fuels PROC19: Manual activities involving hand contact PROC21: Low energy manipulation and handling of substances bound in/on materials or articles PROC23: Open processing and transfer operations at substantially elevated temperature Use domain: industrial
Operational conditions	
Concentration of the substance	Ammonium hydrogencarbonate Content: >= 0 % - <= 100 %
Physical state	Solid – high Dustiness
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Exposed skin area	Palm of both hands (480 cm²)
	Relevant for PROC 13 Relevant for PROC 14
Exposed skin area	Palm of one hand (240 cm²)
	Relevant for PROC 15 Relevant for PROC 16
Exposed skin area	Both hands and main part of the arms (1980 cm²)
	Relevant for PROC 19 Relevant for PROC 21 Relevant for PROC 23
Risk Management Measures	
Wear chemically resistant gloves in combination with ‘basic’ employee training.	Effectiveness: 90 %
Relevant for PROC 19	
Exposure estimate and reference to its source	
PROC13	

Assessment method	ECETOC TRA v2.0 Worker; modified version
	Worker - dermal, long-term - systemic
Exposure estimate	13,71 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,24
	The short-term exposure value corresponds to the long-term value.
PROC13, PROC15	
Assessment method	ECETOC TRA v2.0 Worker; modified version
	Worker - inhalation, long-term - local und systemic
Exposure estimate	5 mg/m³
Risk Characterization Ratio (RCR)	0,08
	The short-term exposure value corresponds to the long-term value multiplied by a factor of 2.
PROC14	
Assessment method	ECETOC TRA v2.0 Worker; modified version
	Worker - dermal, long-term - systemic
Exposure estimate	3,43 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,06
	The short-term exposure value corresponds to the long-term value.
PROC14, PROC16, PROC21, PROC23	
Assessment method	ECETOC TRA v2.0 Worker; modified version
	Worker - inhalation, long-term - local und systemic
Exposure estimate	10 mg/m³
Risk Characterization Ratio (RCR)	0,16
	The short-term exposure value corresponds to the long-term value multiplied by a factor of 2.
PROC15, PROC16	
Assessment method	ECETOC TRA v2.0 Worker; modified version
	Worker - dermal, long-term - systemic
Exposure estimate	0,34 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,01
	The short-term exposure value corresponds to the long-term value.
PROC19	
Assessment method	ECETOC TRA v2.0 Worker; modified version
	Worker - inhalation, long-term - local und systemic
Exposure estimate	25 mg/m³
Risk Characterization Ratio (RCR)	0,4
	The short-term exposure value corresponds to the long-term value multiplied by a factor of 2.
PROC21	
Assessment method	ECETOC TRA v2.0 Worker; modified version
	Worker - dermal, long-term - systemic
Exposure estimate	2,83 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,05
	The short-term exposure value corresponds to the long-term value.

PROC23	
Assessment method	ECETOC TRA v2.0 Worker; modified version
	Worker - dermal, long-term - systemic
Exposure estimate	1,41 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,02
	The short-term exposure value corresponds to the long-term value.
PROC19	
Assessment method	ECETOC TRA v2.0 Worker; modified version, ECETOC TRA modified version: Use of gloves has been considered additionally.
	Worker - dermal, long-term - systemic
Exposure estimate	14,14 mg/m³
Risk Characterization Ratio (RCR)	0,25
	The short-term exposure value corresponds to the long-term value.
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	ERC1: Manufacture of the substance As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

Contributing exposure scenario	
Use descriptors covered	ERC2: Formulation into mixture As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

Contributing exposure scenario	
Use descriptors covered	ERC3: Formulation into solid matrix As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

Contributing exposure scenario	
Use descriptors covered	ERC4: Use of non-reactive processing aid at industrial site (no inclusion into or onto article) As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

Contributing exposure scenario	
Use descriptors covered	ERC5: Use at industrial site leading to inclusion into/onto article As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

Contributing exposure scenario	
Use descriptors covered	ERC6a: Use of intermediate As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

Contributing exposure scenario	
Use descriptors covered	ERC6b: Use of reactive processing aid at industrial site (no inclusion into or onto article) As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

Contributing exposure scenario	
Use descriptors covered	ERC7: Use of functional fluid at industrial site As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

Contributing exposure scenario	
Use descriptors covered	ERC8a: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

Contributing exposure scenario	
Use descriptors covered	ERC8b: Widespread use of reactive processing aid (no inclusion into or onto article, indoor) As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

Contributing exposure scenario	
Use descriptors covered	ERC8c: Widespread use leading to inclusion into/onto article (indoor)

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

Contributing exposure scenario	
Use descriptors covered	ERC8d: Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

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5. Short title of exposure scenario

Use as a Process chemical, Use as Reactive process agent, Professional applications
PW; IS, SU4, SU5, C, PW; ERC2, ERC4, ERC5, ERC8a, ERC8b, ERC8c, ERC8d; PROC4, PROC5, PROC11, PROC13, PROC14, PROC15, PROC16, PROC19, PROC21

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	PROC4: Chemical production where opportunity for exposure arises PROC5: Mixing or blending in batch processes PROC13: Treatment of articles by dipping and pouring. PROC14: Tabletting, compression, extrusion, pelletisation, granulation PROC15: Use a laboratory reagent. PROC16: Use of fuels PROC19: Manual activities involving hand contact PROC21: Low energy manipulation and handling of substances bound in/on materials or articles Use domain: professional
Operational conditions	
Concentration of the substance	Ammonium hydrogencarbonate Content: >= 0 % - <= 100 %
Physical state	Solid – high Dustiness
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Exposed skin area	Palm of both hands (480 cm²)
	Relevant for PROC 4 Relevant for PROC 5 Relevant for PROC 13 Relevant for PROC 14
Exposed skin area	Palm of one hand (240 cm²)

	Relevant for PROC 15 Relevant for PROC 16
Exposed skin area	Both hands and main part of the arms (1980 cm²)
	Relevant for PROC 19 Relevant for PROC 21
Risk Management Measures	
Provide extract ventilation to points where emissions occur (LEV).	Effectiveness: 80 %
Relevant for PROC 4, Relevant for PROC 5, Relevant for PROC 14, Relevant for PROC 15, Relevant for PROC 16, Relevant for PROC 19	
Wear chemically resistant gloves in combination with 'basic' employee training.	Effectiveness: 90 %
Relevant for PROC 19	
Exposure estimate and reference to its source	
PROC4	
Assessment method	ECETOC TRA v2.0 Worker; modified version, ECETOC TRA modified version: Reduction factor for local exhaust ventilation (LEV) has not been used for the calculation of dermal exposure estimates.
	Worker - dermal, long-term - systemic
Exposure estimate	6,86 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,12
	The short-term exposure value corresponds to the long-term value.
PROC4, PROC5, PROC14, PROC16, PROC19	
Assessment method	ECETOC TRA v2.0 Worker; modified version
	Worker - inhalation, long-term - local und systemic
Exposure estimate	10 mg/m³
Risk Characterization Ratio (RCR)	0,16
	The short-term exposure value corresponds to the long-term value multiplied by a factor of 2.
PROC5	
Assessment method	ECETOC TRA v2.0 Worker; modified version, ECETOC TRA modified version: Reduction factor for local exhaust ventilation (LEV) has not been used for the calculation of dermal exposure estimates.
	Worker - dermal, long-term - systemic
Exposure estimate	13,71 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,24
	The short-term exposure value corresponds to the long-term value.
PROC13	
Assessment method	ECETOC TRA v2.0 Worker; modified version
	Worker - dermal, long-term - systemic
Exposure estimate	13,71 mg/kg bw/day

Risk Characterization Ratio (RCR)	0,24
	The short-term exposure value corresponds to the long-term value.
PROC13, PROC15	
Assessment method	ECETOC TRA v2.0 Worker; modified version
	Worker - inhalation, long-term - local und systemic
Exposure estimate	5 mg/m³
Risk Characterization Ratio (RCR)	0,08
	The short-term exposure value corresponds to the long-term value multiplied by a factor of 2.
PROC14	
Assessment method	ECETOC TRA v2.0 Worker; modified version, ECETOC TRA modified version: Reduction factor for local exhaust ventilation (LEV) has not been used for the calculation of dermal exposure estimates.
	Worker - dermal, long-term - systemic
Exposure estimate	3,43 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,06
	The short-term exposure value corresponds to the long-term value.
PROC15, PROC16	
Assessment method	ECETOC TRA v2.0 Worker; modified version, ECETOC TRA modified version: Reduction factor for local exhaust ventilation (LEV) has not been used for the calculation of dermal exposure estimates.
	Worker - dermal, long-term - systemic
Exposure estimate	0,34 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,006
	The short-term exposure value corresponds to the long-term value.
PROC19	
Assessment method	ECETOC TRA v2.0 Worker; modified version, ECETOC TRA modified version: Reduction factor for local exhaust ventilation (LEV) has not been used for the calculation of dermal exposure estimates., ECETOC TRA modified version: Use of gloves has been considered additionally.
	Worker - dermal, long-term - systemic
Exposure estimate	14,14 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,25
	The short-term exposure value corresponds to the long-term value.
PROC21	
Assessment method	ECETOC TRA v2.0 Worker; modified version
	Worker - dermal, long-term - systemic
Exposure estimate	2,83 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,05
	The short-term exposure value corresponds to the long-term value.

PROC21	
Assessment method	ECETOC TRA v2.0 Worker; modified version
	Worker - inhalation, long-term - local und systemic
Exposure estimate	20 mg/m³
Risk Characterization Ratio (RCR)	0,32
	The short-term exposure value corresponds to the long-term value multiplied by a factor of 2.
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC11: Non industrial spraying Use domain: professional
Operational conditions	
Concentration of the substance	Ammonium hydrogencarbonate Content: >= 0 % - <= 90 %
Physical state	Solid
Duration and Frequency of activity	240 min 5 days per week
Indoor/Outdoor	Indoor
Room size	100 m3
Amounts used	Amount per use 0,3 l/min Relevant for inhalative exposure estimates
	Amount per use 0,08 kg/min Relevant for dermal exposure estimates
Risk Management Measures	
Regular inspection and maintenance of equipment and machines. Ensure that the task is being carried out outside the breathing zone of a worker (distance head-product greater than 1m). Clean equipment and the work area every day.	
Ensure mechanical ventilation is in place.	
Wear suitable coveralls to prevent exposure to the skin.	Effectiveness: 80 %
Provide extract ventilation to points where emissions occur (LEV).	Effectiveness: 80 %
Use suitable chemically resistant gloves.	Effectiveness: 80 %
Exposure estimate and reference to its source	
Assessment method	RISKOFDERM v2.1
	Worker - dermal, long-term - systemic
Exposure estimate	17,49 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,31

	The exposure estimate represents the 75th percentile of the exposure distribution.
Assessment method	Advanced REACH Tool v1.0
	Worker - inhalation, long-term - local und systemic
Exposure estimate	6,3 mg/m³
Risk Characterization Ratio (RCR)	0,1
	The exposure estimate represents the 75th percentile of the exposure distribution.
Assessment method	RISKOFDERM v2.1
	Worker - dermal, short-term - systemic
Exposure estimate	51,89 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,91
	The exposure estimate represents the 90th percentile of the exposure distribution.
Assessment method	Advanced REACH Tool v1.0
	Worker- inhalation, short-term - local und systemic
Exposure estimate	12 mg/m³
Risk Characterization Ratio (RCR)	0,075
	The exposure estimate represents the 90th percentile of the exposure distribution.
Guidance to Downstream Users	
For scaling see: http://www.advancedreachtool.com For scaling see: http://www.tno.nl and search for "riskofderm".	

Contributing exposure scenario	
Use descriptors covered	ERC2: Formulation into mixture As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

Contributing exposure scenario	
Use descriptors covered	ERC4: Use of non-reactive processing aid at industrial site (no inclusion into or onto article) As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

Contributing exposure scenario	
Use descriptors covered	ERC5: Use at industrial site leading to inclusion into/onto article As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

Contributing exposure scenario

Use descriptors covered	ERC8a: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

Contributing exposure scenario	
Use descriptors covered	ERC8b: Widespread use of reactive processing aid (no inclusion into or onto article, indoor) As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

Contributing exposure scenario	
Use descriptors covered	ERC8c: Widespread use leading to inclusion into/onto article (indoor) As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

Contributing exposure scenario	
Use descriptors covered	ERC8d: Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

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6. Short title of exposure scenario

Use as raw material, Use in chemical synthesis, Industrial applications
IS; IS, SU8, SU9; ERC1, ERC6a, ERC7; PROC3, PROC4, PROC8b, PROC15

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC4: Chemical production where opportunity for exposure arises PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC15: Use a laboratory reagent. Use domain: industrial

Operational conditions	
Concentration of the substance	Ammonium hydrogencarbonate Content: >= 0 % - <= 100 %
Physical state	Solid – high Dustiness
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Exposed skin area	Palm of one hand (240 cm²)
	Relevant for PROC 3 Relevant for PROC 15
Exposed skin area	Palm of both hands (480 cm²)
	Relevant for PROC 4 Relevant for PROC 8b
Exposure estimate and reference to its source	
PROC3, PROC15	
Assessment method	ECETOC TRA v2.0 Worker; modified version
	Worker - dermal, long-term - systemic
Exposure estimate	0,34 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,01
	The short-term exposure value corresponds to the long-term value.
PROC3	
Assessment method	ECETOC TRA v2.0 Worker; modified version
	Worker - inhalation, long-term - local und systemic
Exposure estimate	1 mg/m³
Risk Characterization Ratio (RCR)	0,02
	The short-term exposure value corresponds to the long-term value multiplied by a factor of 2.
PROC4, PROC8b	
Assessment method	ECETOC TRA v2.0 Worker; modified version
	Worker - dermal, long-term - systemic
Exposure estimate	6,86 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,12
	The short-term exposure value corresponds to the long-term value.
PROC4, PROC8b	
Assessment method	ECETOC TRA v2.0 Worker; modified version
	Worker - inhalation, long-term - local und systemic
Exposure estimate	25 mg/m³
Risk Characterization Ratio (RCR)	0,4
	The short-term exposure value corresponds to the long-term value multiplied by a factor of 2.
PROC15	
Assessment method	ECETOC TRA v2.0 Worker; modified version
	Worker - inhalation, long-term - local und systemic
Exposure estimate	5 mg/m³

Risk Characterization Ratio (RCR)	0,08
	The short-term exposure value corresponds to the long-term value multiplied by a factor of 2.
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	ERC1: Manufacture of the substance As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

Contributing exposure scenario	
Use descriptors covered	ERC6a: Use of intermediate As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

Contributing exposure scenario	
Use descriptors covered	ERC7: Use of functional fluid at industrial site As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

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7. Short title of exposure scenario

Use in Metallurgy, Industrial applications
IS; SU2a, IS, SU14; ERC1, ERC4, ERC6a, ERC6b; PROC3, PROC4, PROC8b, PROC9

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC4: Chemical production where opportunity for exposure arises PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing). Use domain: industrial

Operational conditions	
Concentration of the substance	Ammonium hydrogencarbonate Content: >= 0 % - <= 100 %
Physical state	Solid – high Dustiness
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Exposed skin area	Palm of both hands (480 cm²)
	Relevant for PROC 4 Relevant for PROC 8b Relevant for PROC 9
Exposed skin area	Palm of one hand (240 cm²)
	Relevant for PROC 3
Exposure estimate and reference to its source	
PROC3	
Assessment method	ECETOC TRA v2.0 Worker; modified version
	Worker - dermal, long-term - systemic
Exposure estimate	0,34 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,01
	The short-term exposure value corresponds to the long-term value.
PROC3	
Assessment method	ECETOC TRA v2.0 Worker; modified version
	Worker - inhalation, long-term - local und systemic
Exposure estimate	1 mg/m³
Risk Characterization Ratio (RCR)	0,02
	The short-term exposure value corresponds to the long-term value multiplied by a factor of 2.
PROC4, PROC8b, PROC9	
Assessment method	ECETOC TRA v2.0 Worker; modified version
	Worker - dermal, long-term - systemic
Exposure estimate	6,86 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,12
	The short-term exposure value corresponds to the long-term value.
PROC4, PROC8b	
Assessment method	ECETOC TRA v2.0 Worker; modified version
	Worker - inhalation, long-term - local und systemic
Exposure estimate	25 mg/m³
Risk Characterization Ratio (RCR)	0,4
	The short-term exposure value corresponds to the long-term value multiplied by a factor of 2.
PROC9	
Assessment method	ECETOC TRA v2.0 Worker; modified version
	Worker - inhalation, long-term - local und systemic
Exposure estimate	20 mg/m³

Risk Characterization Ratio (RCR)	0,32
	The short-term exposure value corresponds to the long-term value multiplied by a factor of 2.
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	ERC1: Manufacture of the substance As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

Contributing exposure scenario	
Use descriptors covered	ERC4: Use of non-reactive processing aid at industrial site (no inclusion into or onto article) As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

Contributing exposure scenario	
Use descriptors covered	ERC6a: Use of intermediate As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

Contributing exposure scenario	
Use descriptors covered	ERC6b: Use of reactive processing aid at industrial site (no inclusion into or onto article) As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

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8. Short title of exposure scenario

Consumer applications, Use in Cleaning Agents
C; ERC8d, ERC8e; PC35

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	C: Consumer uses PC35: Washing and Cleaning Products (including solvent

	based products)., Liquid cleaners, Mixing and loading, Application
Operational conditions	
Concentration of the substance	Ammonium hydrogencarbonate Content: >= 0 % - <= 2 %
Physical state	liquid
Vapour pressure of the substance during use	78,5 hPa
Duration and Frequency of activity	Exposure duration: 0,75 min 104 days per year Relevant for mixing and loading
Duration and Frequency of activity	Application duration: 0,3 min Relevant for mixing and loading
Duration and Frequency of activity	Exposure duration: 240 min 104 days per year Relevant for the cleaning process.
Duration and Frequency of activity	Application duration: 20 min Relevant for the cleaning process.
Room size	1 m3
Ventilation rate per hour	0,5
	Relevant for mixing and loading
Room size	58 m3
Ventilation rate per hour	0,5
	Relevant for the cleaning process.
Exposed skin area	Palm of one hand (215 cm^2)
	Relevant for mixing and loading
	Relevant for mixing and loading
Exposed skin area	Both hands and forearms (1900 cm^2)
	Relevant for the cleaning process.
	Relevant for the cleaning process.
	Amount per use 500 g Relevant for inhalative exposure estimates Relevant for mixing and loading
	Amount per use 0,01 g Relevant for dermal exposure estimates Relevant for mixing and loading
	Amount per use 400 g Relevant for inhalative exposure estimates Relevant for the cleaning process.
	Amount per use 19 g Relevant for dermal exposure estimates Relevant for the cleaning process.
Release area	20 cm^2
	Relevant for mixing and loading
Release area	100000 cm^2
	Relevant for the cleaning process.
Exposure estimate and reference to its source	
Assessment method	ConsExpo v4.1
	Consumer- inhalation, long-term - local und systemic
Exposure estimate	9,38 mg/m^3
Risk Characterization Ratio (RCR)	0,7037
Assessment method	ConsExpo v4.1

	Consumer - dermal, long-term - systemic
Exposure estimate	5,86 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,172
Assessment method	ConsExpo v4.1
	Consumer- inhalation, short-term - local und systemic
Exposure estimate	0,207 mg/m³
Risk Characterization Ratio (RCR)	0,00144
	Relevant for mixing and loading
Assessment method	ConsExpo v4.1
	Consumer - dermal, short-term - systemic
	The calculated exposure value is negligibly low., Relevant for mixing and loading
Assessment method	ConsExpo v4.1
	Consumer- inhalation, short-term - local und systemic
Exposure estimate	56,3 mg/m³
Risk Characterization Ratio (RCR)	0,392
	Relevant for the cleaning process.
Assessment method	ConsExpo v4.1
	Consumer - dermal, short-term - systemic
Exposure estimate	5,85 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,172
	Relevant for the cleaning process.
Guidance to Downstream Users	
For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp	

Contributing exposure scenario	
Use descriptors covered	C: Consumer uses PC35: Washing and Cleaning Products (including solvent based products)., Liquid cleaners, Spray, Application
Operational conditions	
Concentration of the substance	Ammonium hydrogencarbonate Content: >= 0 % - <= 20 %
Physical state	liquid
Vapour pressure of the substance during use	78,5 hPa
Duration and Frequency of activity	Exposure duration: 60 min 365 days per year
Duration and Frequency of activity	Application duration: 10 min Relevant for the cleaning process.
Duration and Frequency of activity	Spray duration: 0,41 min Relevant for the spraying process.
Room size	15 m3
Ventilation rate per hour	2,5
Exposed skin area	Palm of one hand (215 cm²)
	Relevant for the cleaning process.
	Relevant for the cleaning process.

	Amount per use 16,2 g Relevant for inhalative exposure estimates Relevant for the cleaning process.
	Amount per use 0,16 g Relevant for dermal exposure estimates Relevant for the cleaning process.
Release area	17100 cm²
	Relevant for the cleaning process.
Release duration	24,6 sec
	Relevant for the spraying process.
Exposure estimate and reference to its source	
Assessment method	ConsExpo v4.1
	Consumer- inhalation, long-term - local und systemic
Exposure estimate	3,27 mg/m³
Risk Characterization Ratio (RCR)	0,246
Assessment method	ConsExpo v4.1
	Consumer - dermal, long-term - systemic
Exposure estimate	0,55 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,0161
Assessment method	ConsExpo v4.1
	Consumer- inhalation, short-term - local und systemic
	The calculated exposure value is negligibly low., Relevant for the spraying process.
Assessment method	ConsExpo v4.1
	Consumer - dermal, short-term - systemic
Exposure estimate	0,058 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,0017
	Relevant for the spraying process.
Assessment method	ConsExpo v4.1
	Consumer- inhalation, short-term - local und systemic
Exposure estimate	78,5 mg/m³
Risk Characterization Ratio (RCR)	0,546
	Relevant for the cleaning process.
Assessment method	ConsExpo v4.1
	Consumer - dermal, short-term - systemic
Exposure estimate	0,492 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,0144
	Relevant for the cleaning process.
Guidance to Downstream Users	
For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp	

Contributing exposure scenario	
Use descriptors covered	C: Consumer uses PC35: Washing and Cleaning Products (including solvent based products)., Bathroom cleaning (spray), Application
Operational conditions	
Concentration of the substance	Ammonium hydrogencarbonate Content: >= 0 % - <= 5 %

Physical state	liquid
Vapour pressure of the substance during use	78,5 hPa
Duration and Frequency of activity	Exposure duration: 25 min 52 days per year
Duration and Frequency of activity	Application duration: 1,5 min Relevant for the cleaning process.
Duration and Frequency of activity	Spray duration: 1,5 min Relevant for the spraying process.
Room size	10 m3
Ventilation rate per hour	2
Exposed skin area	Palm of one hand (215 cm²)
	Relevant for the cleaning process.
	Relevant for the cleaning process.
	Amount per use 30 g Relevant for inhalative exposure estimates Relevant for the cleaning process.
	Amount per use 0,3 g Relevant for dermal exposure estimates Relevant for the cleaning process.
Release area	64000 cm²
	Relevant for the cleaning process.
Release duration	90 sec
	Relevant for the spraying process.
Exposure estimate and reference to its source	
Assessment method	ConsExpo v4.1
	Consumer- inhalation, long-term - local und systemic
Exposure estimate	1,73 mg/m³
Risk Characterization Ratio (RCR)	0,1298
Assessment method	ConsExpo v4.1
	Consumer - dermal, long-term - systemic
Exposure estimate	0,284 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,00831
Assessment method	ConsExpo v4.1
	Consumer- inhalation, short-term - local und systemic
	The calculated exposure value is negligibly low., Relevant for the spraying process.
Assessment method	ConsExpo v4.1
	Consumer - dermal, short-term - systemic
Exposure estimate	0,0531 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,00155
	Relevant for the spraying process.
Assessment method	ConsExpo v4.1
	Consumer- inhalation, short-term - local und systemic
Exposure estimate	99,8 mg/m³
Risk Characterization Ratio (RCR)	0,694
	Relevant for the cleaning process.
Assessment method	ConsExpo v4.1
	Consumer - dermal, short-term - systemic
Exposure estimate	0,231 mg/kg bw/day

Risk Characterization Ratio (RCR)	0,00675
	Relevant for the cleaning process.
Guidance to Downstream Users	
For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp	

Contributing exposure scenario	
Use descriptors covered	C: Consumer uses PC35: Washing and Cleaning Products (including solvent based products)., Bathroom cleaning (liquid), Mixing and loading, Application
Operational conditions	
Concentration of the substance	Ammonium hydrogencarbonate Content: >= 0 % - <= 1,4 %
Physical state	liquid
Vapour pressure of the substance during use	78,5 hPa
Duration and Frequency of activity	Exposure duration: 0,75 min 4 days per year Relevant for mixing and loading
Duration and Frequency of activity	Application duration: 0,3 min Relevant for mixing and loading
Duration and Frequency of activity	Exposure duration: 25 min 4 days per year Relevant for the cleaning process.
Duration and Frequency of activity	Application duration: 20 min Relevant for the cleaning process.
Room size	1 m3
Ventilation rate per hour	2
	Relevant for mixing and loading
Room size	10 m3
Ventilation rate per hour	2
	Relevant for the cleaning process.
Exposed skin area	Palm of one hand (215 cm²)
	Relevant for mixing and loading
	Relevant for mixing and loading
Exposed skin area	Both hands and forearms (1900 cm²)
	Relevant for the cleaning process.
	Relevant for the cleaning process.
	Amount per use 500 g Relevant for inhalative exposure estimates Relevant for mixing and loading
	Amount per use 0,01 g Relevant for dermal exposure estimates Relevant for mixing and loading
	Amount per use 260 g Relevant for inhalative exposure estimates Relevant for the cleaning process.
	Amount per use 19 g Relevant for dermal exposure estimates Relevant for the cleaning process.
Release area	20 cm²
	Relevant for mixing and loading

Release area	64000 cm²
	Relevant for the cleaning process.
Exposure estimate and reference to its source	
Assessment method	ConsExpo v4.1
	Consumer- inhalation, long-term - local und systemic
Exposure estimate	2,05 mg/m³
Risk Characterization Ratio (RCR)	0,1538
Assessment method	ConsExpo v4.1
	Consumer - dermal, long-term - systemic
Exposure estimate	2,93 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,0857
Assessment method	ConsExpo v4.1
	Consumer- inhalation, short-term - local und systemic
Exposure estimate	0,169 mg/m³
Risk Characterization Ratio (RCR)	0,0012
	Relevant for mixing and loading
Assessment method	ConsExpo v4.1
	Consumer - dermal, short-term - systemic
	The calculated exposure value is negligibly low., Relevant for mixing and loading
Assessment method	ConsExpo v4.1
	Consumer- inhalation, short-term - local und systemic
Exposure estimate	118 mg/m³
Risk Characterization Ratio (RCR)	0,82
	Relevant for the cleaning process.
Assessment method	ConsExpo v4.1
	Consumer - dermal, short-term - systemic
Exposure estimate	4,09 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,12
	Relevant for the cleaning process.
Guidance to Downstream Users	
For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp	

Contributing exposure scenario	
Use descriptors covered	C: Consumer uses PC35: Washing and Cleaning Products (including solvent based products)., Toilet cleaners (acid), Toilet cleaners (bleach)
Operational conditions	
Concentration of the substance	Ammonium hydrogencarbonate Content: >= 0 % - <= 12,5 %
Physical state	liquid
Vapour pressure of the substance during use	78,5 hPa
Duration and Frequency of activity	Exposure duration: 3 min 260 days per year Relevant for toilet cleaners (acid)

Duration and Frequency of activity	Application duration: 2 min
Duration and Frequency of activity	Exposure duration: 3 min 120 days per year Relevant for toilet cleaners (bleach)
Room size	2,5 m3
Ventilation rate per hour	2
Exposed skin area	Palm of one hand (215 cm²)
	Amount per use 1.000 g Relevant for inhalative exposure estimates
	Amount per use 2,2 g Relevant for dermal exposure estimates
Release area	750 cm²
Exposure estimate and reference to its source	
Assessment method	ConsExpo v4.1
	Consumer- inhalation, long-term - local und systemic
Exposure estimate	0,233 mg/m³
Risk Characterization Ratio (RCR)	0,0175
Assessment method	ConsExpo v4.1
	Consumer - dermal, long-term - systemic
Exposure estimate	4,23 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,124
	The short-term exposure value corresponds to the long-term value.
Assessment method	ConsExpo v4.1
	Consumer- inhalation, short-term - local und systemic
Exposure estimate	112 mg/m³
Risk Characterization Ratio (RCR)	0,7783
Guidance to Downstream Users	
For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp	

Contributing exposure scenario	
Use descriptors covered	C: Consumer uses PC35: Washing and Cleaning Products (including solvent based products)., Floor cleaning (liquids), Mixing and loading, Application
Operational conditions	
Concentration of the substance	Ammonium hydrogencarbonate Content: >= 0 % - <= 1 %
Physical state	liquid
Vapour pressure of the substance during use	78,5 hPa
Duration and Frequency of activity	Exposure duration: 0,75 min 104 days per year Relevant for mixing and loading
Duration and Frequency of activity	Application duration: 0,3 min Relevant for mixing and loading
Duration and Frequency of activity	Exposure duration: 240 min 104 days per year

	Relevant for the cleaning process.
Duration and Frequency of activity	Application duration: 30 min Relevant for the cleaning process.
Room size	1 m3
Ventilation rate per hour	0,5
	Relevant for mixing and loading
Room size	58 m3
Ventilation rate per hour	0,5
	Relevant for the cleaning process.
Exposed skin area	Palm of one hand (215 cm²)
	Relevant for mixing and loading
	Relevant for mixing and loading
Exposed skin area	Both hands and forearms (1900 cm²)
	Relevant for the cleaning process.
	Relevant for the cleaning process.
	Amount per use 500 g Relevant for inhalative exposure estimates Relevant for mixing and loading
	Amount per use 0,01 g Relevant for dermal exposure estimates Relevant for mixing and loading
	Amount per use 880 g Relevant for inhalative exposure estimates Relevant for the cleaning process.
	Amount per use 19 g Relevant for dermal exposure estimates Relevant for the cleaning process.
Release area	20 cm²
	Relevant for mixing and loading
Release area	220000 cm²
	Relevant for the cleaning process.
Exposure estimate and reference to its source	
Assessment method	ConsExpo v4.1
	Consumer- inhalation, long-term - local und systemic
Exposure estimate	9,75 mg/m³
Risk Characterization Ratio (RCR)	0,7314
Assessment method	ConsExpo v4.1
	Consumer - dermal, long-term - systemic
Exposure estimate	2,93 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,0857
Assessment method	ConsExpo v4.1
	Consumer- inhalation, short-term - local und systemic
Exposure estimate	0,103 mg/m³
Risk Characterization Ratio (RCR)	0,00071
	Relevant for mixing and loading
Assessment method	ConsExpo v4.1
	Consumer - dermal, short-term - systemic
	The calculated exposure value is negligibly low., Relevant for mixing and loading
Assessment method	ConsExpo v4.1
	Consumer- inhalation, short-term - local und systemic
Exposure estimate	58,4 mg/m³

Risk Characterization Ratio (RCR)	0,406
	Relevant for the cleaning process.
Assessment method	ConsExpo v4.1
	Consumer - dermal, short-term - systemic
Exposure estimate	2,92 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,0854
	Relevant for the cleaning process.
Guidance to Downstream Users	
For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp	

Contributing exposure scenario	
Use descriptors covered	C: Consumer uses PC35: Washing and Cleaning Products (including solvent based products)., Carpet cleaning (liquids), Mixing and loading, Application
Operational conditions	
Concentration of the substance	Ammonium hydrogencarbonate Content: >= 0 % - <= 0,5 %
Physical state	liquid
Vapour pressure of the substance during use	78,5 hPa
Duration and Frequency of activity	Exposure duration: 0,75 min Relevant for mixing and loading
Duration and Frequency of activity	Application duration: 0,3 min Relevant for mixing and loading
Duration and Frequency of activity	Exposure duration: 110 min Relevant for the cleaning process.
Duration and Frequency of activity	Application duration: 110 min Relevant for the cleaning process.
Room size	1 m3
Ventilation rate per hour	0,5
	Relevant for mixing and loading
Room size	58 m3
Ventilation rate per hour	0,5
	Relevant for the cleaning process.
Exposed skin area	Palm of one hand (215 cm²)
	Relevant for mixing and loading
	Relevant for mixing and loading
Exposed skin area	Both hands (860 cm²)
	Relevant for the cleaning process.
	Relevant for the cleaning process.
	Amount per use 500 g Relevant for inhalative exposure estimates Relevant for mixing and loading
	Amount per use 0,01 g Relevant for dermal exposure estimates Relevant for mixing and loading
	Amount per use 10.000 g Relevant for inhalative exposure

	estimates Relevant for the cleaning process.
	Amount per use 27 g Relevant for dermal exposure estimates Relevant for the cleaning process.
Release area	20 cm²
	Relevant for mixing and loading
Release area	220000 cm²
	Relevant for the cleaning process.
Exposure estimate and reference to its source	
Assessment method	ConsExpo v4.1
	Consumer- inhalation, long-term - local und systemic
Exposure estimate	8,54 mg/m³
Risk Characterization Ratio (RCR)	0,6632
Assessment method	ConsExpo v4.1
	Consumer - dermal, long-term - systemic
Exposure estimate	2,08 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,0608
Assessment method	ConsExpo v4.1
	Consumer- inhalation, short-term - local und systemic
Exposure estimate	0,0836 mg/m³
Risk Characterization Ratio (RCR)	0,00058
	Relevant for mixing and loading
Assessment method	ConsExpo v4.1
	Consumer - dermal, short-term - systemic
	The calculated exposure value is negligibly low., Relevant for mixing and loading
Assessment method	ConsExpo v4.1
	Consumer- inhalation, short-term - local und systemic
Exposure estimate	112 mg/m³
Risk Characterization Ratio (RCR)	0,7783
	Relevant for the cleaning process.
Assessment method	ConsExpo v4.1
	Consumer - dermal, short-term - systemic
Exposure estimate	2,08 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,0608
	Relevant for the cleaning process.
Guidance to Downstream Users	
For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp	

Contributing exposure scenario	
Use descriptors covered	C: Consumer uses PC35: Washing and Cleaning Products (including solvent based products)., Glass cleaners, Spray, Application
Operational conditions	
Concentration of the substance	Ammonium hydrogencarbonate Content: >= 0 % - <= 20 %
Physical state	liquid

Vapour pressure of the substance during use	78,5 hPa
Duration and Frequency of activity	Exposure duration: 240 min 365 days per year Relevant for the spraying process.
Duration and Frequency of activity	Spray duration: 0,7 min Relevant for the spraying process.
Duration and Frequency of activity	Exposure duration: 30 min 365 days per year Relevant for the cleaning process.
Duration and Frequency of activity	Application duration: 3 min Relevant for the cleaning process.
Room size	58 m3
Ventilation rate per hour	0,5
Exposed skin area	Palm of one hand (215 cm^2)
	Relevant for the cleaning process.
	Relevant for the cleaning process.
	Amount per use 16,2 g Relevant for inhalative exposure estimates Relevant for the cleaning process.
	Amount per use 0,29 g Relevant for dermal exposure estimates Relevant for the cleaning process.
Release duration	42 sec
	Relevant for the spraying process.
Release area	30000 cm^2
	Relevant for the cleaning process.
Exposure estimate and reference to its source	
Assessment method	ConsExpo v4.1
	Consumer- inhalation, long-term - local und systemic
Exposure estimate	0,125 mg/m^3
Risk Characterization Ratio (RCR)	0,00938
Assessment method	ConsExpo v4.1
	Consumer - dermal, long-term - systemic
Exposure estimate	0,991 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,029
Assessment method	ConsExpo v4.1
	Consumer- inhalation, short-term - local und systemic
	The calculated exposure value is negligibly low., Relevant for the spraying process.
Assessment method	ConsExpo v4.1
	Consumer - dermal, short-term - systemic
	The calculated exposure value is negligibly low., Relevant for the spraying process.
Assessment method	ConsExpo v4.1
	Consumer- inhalation, short-term - local und systemic
Exposure estimate	5,99 mg/m^3
Risk Characterization Ratio (RCR)	0,042
	Relevant for the cleaning process.
Assessment method	ConsExpo v4.1
	Consumer - dermal, short-term - systemic
Exposure estimate	0,892 mg/kg bw/day

Risk Characterization Ratio (RCR)	0,0261
	Relevant for the cleaning process.
Guidance to Downstream Users	
For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp	

Contributing exposure scenario	
Use descriptors covered	ERC8d: Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

Contributing exposure scenario	
Use descriptors covered	ERC8e: Widespread use of reactive processing aid (no inclusion into or onto article, outdoor) As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

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