

Safety data sheet

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BASF Safety data sheet according to Regulation (EC) No. 1907/2006 as amended from time to time.

Date / Revised: 31.07.2025 Version: 9.0

Date / Previous version: 11.04.2025 Previous version: 8.0

Product: Ammonium chloride RWS food grade

(ID no. 30042426/SDS_GEN_IE/EN)

Date of print 21.10.2025

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

1.1. Product identifier

Ammonium chloride RWS food grade

UFI: 9M2Q-30MK-R00E-J01E

The substance/mixture contains nanoforms.

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

Relevant identified uses: food additive(s)

Recommended use: Raw material, auxiliary, inorganic salts, flavours

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 Contact address:
BASF Ireland DAC
Asgard House, 19-20 City Quay
Dublin, D02 K744
Ireland

Telephone: +353 21 451-7100

E-mail address: product-safety-uk-and-ireland@basf.com

1.4. Emergency telephone number

For products classified as hazardous in accordance with CLP: National Poisons Information Centre, Beaumont Hospital, Dublin 9 Emergency medical information: 8am-10pm (seven days)

Tal : 01 9002566

Tel.: 01 8092566

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

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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.

Eye Irrit. 2 H319 Causes serious eye irritation.

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:

H319 Causes serious eye irritation.

H302 Harmful if swallowed.

Precautionary Statements (Prevention):

P280 Wear eye and face protection.

P270 Do not eat, drink or smoke when using this product.

P264 Wash contaminated skin thoroughly with plenty of water and soap after

handling.

Precautionary Statements (Response):

P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you

feel unwell.

P330 Rinse mouth.

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 attention.

Precautionary Statements (Disposal):

P501 Dispose of contents and container to hazardous or special waste

collection point.

Hazard determining component(s) for labelling: ammonium chloride

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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 chloride

Contains:formulation auxiliary, anticaking agent

Regulatory relevant ingredients

ammonium chloride

Content (W/W): >= 75 % - <= 100 Acute Tox. 4 (oral)

% Eye Irrit. 2 CAS Number: 12125-02-9 H319, H302

EC-Number: 235-186-4

REACH registration number: 01-2119487950-27, 01-2119489385-

24

INDEX-Number: 017-014-00-8

Pentacalcium hydroxide tris(orthophosphate)

Content (W/W): >= 0 % - <= 0.7 %

CAS Number: 12167-74-7 EC-Number: 235-330-6

Particle characteristics of nanoform:

Particle size distribution: 9.94 µm (D90, Volumetric Distribution)

4.77 μm (D50, Volumetric Distribution) 2.06 μm (D10, Volumetric Distribution)

Specific Surface Area: > 60 m2/cm3 (VSSA)

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.

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SECTION 4: First-Aid Measures

4.1. Description of first aid measures

Remove contaminated clothing.

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:

Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

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: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11.

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

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing media

Suitable extinguishing media:

water spray

Unsuitable extinguishing media for safety reasons:

water jet

5.2. Special hazards arising from the substance or mixture

Endangering substances: ammonia, anhydrous, hydrogen chloride

Advice: The substances/groups of substances mentioned can be released if the product is involved in a fire.

5.3. Advice for fire-fighters

Special protective equipment:

Wear a self-contained breathing apparatus.

Further information:

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Product itself is non-combustible; fire extinguishing method of surrounding areas must be considered. In case of fire and/or explosion do not breathe fumes. Large quantities of extinguishing water containing dissolved product should be contained. Contaminated extinguishing water must be disposed of in accordance with official regulations.

SECTION 6: Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective clothing.

6.2. Environmental precautions

Do not empty into drains.

6.3. Methods and material for containment and cleaning up

For residues: Pick up in dry form. Dispose of absorbed material in accordance with regulations.

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

Handle in accordance with good industrial hygiene and safety practice.

Protection against fire and explosion:

No special precautions necessary.

7.2. Conditions for safe storage, including any incompatibilities

Segregate from alkalies and alkalizing substances. Segregate from nitrites. Segregate from oxidants. Do not store with: Sodium nitrate

Suitable materials for containers: Polyester resin, glass reinforced (Palatal A410), High density polyethylene (HDPE), Low density polyethylene (LDPE), Stainless steel 1.4571, rubberized, enamelled, Paper/Fibreboard

Further information on storage conditions: Protect against moisture.

7.3. Specific end use(s)

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

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SECTION 8: Exposure Controls/Personal Protection

8.1. Control parameters

Components with occupational exposure limits

12125-02-9: ammonium chloride

TWA value 10 mg/m3 (OEL (IE)), fumes/smoke STEL value 20 mg/m3 (OEL (IE)), fumes/smoke

Ceiling limit value/factor: 15 min

STEL value 20 mg/m3 (OEL (IE)), fumes/smoke

Ceiling limit value/factor: 15 min

TWA value 10 mg/m3 (OEL (IE)), fumes/smoke

Components with PNEC

12125-02-9: ammonium chloride

freshwater: 0.25 mg/l marine water: 0.025 mg/l intermittent release: 0.43 mg/l sediment (freshwater): No hazard identified. sediment (marine water): No hazard identified. soil: 50.7 mg/kg

STP:

No hazard identified.

Components with DNEL

12125-02-9: ammonium chloride

worker: Long-term exposure- systemic effects, Inhalation: 43.97 mg/m3 worker: Long-term exposure- systemic effects, dermal: 128.9 mg/kg consumer: Long-term exposure- systemic effects, Inhalation: 9.4 mg/m3 consumer: Long-term exposure- systemic effects, dermal: 55.2 mg/kg consumer: Long-term exposure- systemic effects, oral: 55.2 mg/kg

8.2. Exposure controls

Personal protective equipment

Respiratory protection:

Breathing protection if dusts are formed. Particle filter with low efficiency for solid particles (e.g. EN 143 or 149, Type P1or FFP1)

Hand protection:

Chemical resistant protective gloves (EN ISO 374-1)

Suitable materials also with prolonged, direct contact (Recommended: Protective index 6,

corresponding > 480 minutes of permeation time according to EN ISO 374-1):

chloroprene rubber (CR) - 0.5 mm coating thickness

butyl rubber (butyl) - 0.7 mm coating thickness

nitrile rubber (NBR) - 0.4 mm coating thickness

fluoroelastomer (FKM) - 0.7 mm coating thickness

polyvinylchloride (PVC) - 0.7 mm coating thickness

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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 depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

General safety and hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Avoid inhalation of dusts. When using, do not eat, drink or smoke. Remove contaminated clothing immediately and clean before re-use or dispose it if necessary.

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: almost odourless

Odour threshold:

not applicable, odour not perceivable

Melting point: 338 °C

Literature data.

The substance / product

decomposes.

Boiling point:

(1,013.25 hPa)

The substance / product decomposes therefore not

determined.

Sublimation point: 338 °C

The substance / product

decomposes.

Flammability: not flammable (Regulation 440/2008/EC,

A.10)

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

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Auto-ignition temperature:

The substance / product decomposes therefore not

determined.

Self-ignition temperature:

Test type: Self-ignition at high

temperatures.

not self-igniting

Thermal decomposition: To avoid thermal decomposition, do not overheat.

SADT: Not a substance/mixture liable to self-decomposition according to

GHS.

pH value: 5.0 - 5.5

(1.0 - 10.0 %(m), 25 °C)

Viscosity, dynamic:

not applicable, the product is a solid

Solubility in water: (OECD Guideline 105)

296 - 298 g/l

(20 °C, pH 5.4)

Partitioning coefficient n-octanol/water (log Kow):

The value has not been determined because the substance is inorganic.

Vapour pressure: 66 mbar

(250 °C)

Literature data.

Density: 1.5274 g/cm3

(20 °C)

Literature data.

Particle characteristics

Particle size distribution: 100 - 125 µm (D50, Volumetric Distribution,

measured)

fine particles -

Particle Shape: spheres

9.2. Other information

Information with regard to physical hazard classes

Explosives

Explosion hazard: not explosive (Regulation 440/2008/EC,

A.14)

Impact sensitivity:

Based on the chemical structure there is no shock-sensitivity.

Oxidizing properties

Fire promoting properties: not fire-propagating (Regulation 440/2008/EC,

À.17)

Pyrophoric properties

Self-ignition temperature: Test type: Spontaneous self-

ignition at room-temperature.

not self-igniting

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Self-heating substances and mixtures

Self heating ability: It is not a substance capable of

spontaneous heating.

Other safety characteristics

Bulk density: 600 - 900 kg/m3 (DIN ISO 697)

pKA:

not applicable

Information on: ammonia, anhydrous

pKA:

Study scientifically not justified., The

substance does not dissociate.

hygroscopic Hygroscopy:

Study scientifically not justified.

Surface tension:

Based on chemical structure, surface

activity is not to be expected.

Evaporation rate:

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 chemically stable.

10.3. Possibility of hazardous reactions

Violent reaction under influence of oxidizing agents. Incompatible with bases. Reacts with nitrites. The product is stable if stored and handled as prescribed/indicated.

10.4. Conditions to avoid

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

10.5. Incompatible materials

Substances to avoid: nitrites, nitrates, oxidizing agents

10.6. Hazardous decomposition products

Hazardous decomposition products: hydrogen chloride, ammonia, anhydrous

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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.

Experimental/calculated data:

LD50 rat (oral): 1,410 mg/kg (BASF-Test)

(by inhalation): No data available.

LD50 rat (dermal): > 2,000 mg/kg (Directive 92/69/EEC, B.3)

No mortality was observed.

Irritation

Assessment of irritating effects:

Not irritating to the skin. Eye contact causes irritation.

Experimental/calculated data:

Skin corrosion/irritation

rabbit: non-irritant (Draize test) Serious eye damage/irritation rabbit: Irritant. (BASF-Test)

Respiratory/Skin sensitization

Assessment of sensitization:

Skin sensitizing effects were not observed in animal studies.

Experimental/calculated data:

Guinea pig maximization test guinea pig: Non-sensitizing. (similar to OECD guideline 406)

Germ cell mutagenicity

Assessment of mutagenicity:

In the majority of studies performed with microorganisms and in mammalian cell culture, a mutagenic effect was not found. A mutagenic effect was also not observed in in vivo tests.

Carcinogenicity

Assessment of carcinogenicity:

In long-term studies in rats in which the substance was given by feed, a carcinogenic effect was not observed.

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.

Specific target organ toxicity (single exposure)

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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.

Aspiration hazard

not applicable

Interactive effects

No data available.

11.2. Information on other hazards

Endocrine disrupting properties

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 12: Ecological Information

12.1. Toxicity

Assessment of aquatic toxicity:

Harmful to aquatic life.

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) 42,91 mg/l Ammonium chloride, Oncorhynchus mykiss (other, other)

Aquatic invertebrates:

EC50 (48 h) 136.6 mg/l, Daphnia magna (other, static)

Aquatic plants:

EC50 (5 d) 1,300 mg/l (growth rate), Chlorella vulgaris (other, static)

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

EC50 (18 d) 2,700 mg/l (biomass), Chlorella vulgaris (other, static)

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

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Microorganisms/Effect on activated sludge:

EC20 (0.5 h) approx. 850 mg/l, activated sludge, domestic (OECD Guideline 209, aquatic)

Chronic toxicity to fish:

EC10 (30 d) 4,28 mg/l ammonium chloride, Lepomis macrochirus (other, Flow through.)

Chronic toxicity to aquatic invertebrates:

EC10 (70 d) 2,52 mg/l ammonium chloride, aquatic crustacea (other, semistatic)

Assessment of terrestrial toxicity:

Toxic effects have been observed in studies with soil living organisms.

Soil living organisms:

LC50 (14 d) 163 mg/kg, Eisenia foetida (other, artificial soil)

Terrestrial plants:

No observed effect concentration (84 d) 626 mg/l

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.

Study scientifically not justified.

Information on Stability in Water (Hydrolysis):

Study scientifically not justified.

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.

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12.4. Mobility in soil

Assessment transport between environmental compartments:

Volatility: The substance will not evaporate into the atmosphere from the water surface. Study scientifically not justified.

Adsorption in soil: Adsorption to solid soil phase is possible.

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).

12.6. Endocrine disrupting properties

The product does not contain a substance that is considered to have endocrine disrupting properties according to EU REACH Article 57(f).

12.7. Other adverse effects

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

Results of PMT and vPvM assessment

PMT assessment does not apply. vPvM assessment does not apply.

Additional information

Add. remarks environm. fate & pathway:

The product has not been tested. The statements on environmental fate and pathway have been derived from the properties of the individual components.

SECTION 13: Disposal Considerations

13.1. Waste treatment methods

Contact manufacturer regarding recycling. Contact waste centre regarding recycling.

Contaminated packaging:

Contaminated packaging should be emptied as far as possible; then it can be passed on for recycling after being thoroughly cleaned.

SECTION 14: Transport Information

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Land transport

ADR

Not classified as a dangerous good under transport regulations

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

user

RID

Not classified as a dangerous good under transport regulations

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

user:

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 None known Special precautions for

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user

Air transport

IATA/ICAO

Not classified as a dangerous good under transport regulations

UN number or ID number:
UN proper shipping name:
Transport hazard class(es):
Packing group:
Environmental hazards:
Special precautions for

Not applicable
Not applicable
Not applicable
Not applicable
Not applicable
Not applicable

user

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.

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SECTION 15: Regulatory Information

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

Prohibitions, Restrictions and Authorizations

Annex XVII of Regulation (EC) No 1907/2006: Number on List: 75

Directive 2012/18/EU - Control of Major Accident Hazards involving dangerous substances (EU):

Listed in above regulation: no

Classification applies for standard conditions of temperature and pressure.

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

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 Eye Irrit. 2A

chemical industry

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

in section 2 or 3:

Acute Tox. Acute toxicity Eye Irrit. Eye irritation

H319 Causes serious eye irritation.

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,

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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.

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Annex: Exposure Scenarios

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- **12.**Use as a Process chemical, Professional applications, (outdoor use)

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PW; SU1, SU8, SU10; ERC8d; PROC2, PROC3, PROC4, PROC5, PROC8b, PROC9, PROC13, PROC14, PROC15, PROC19, PROC26

13. Use as Reactive process agent, Use in/as Fertilizers, Use in Metallurgy, Use in Metal surface treatment, Use in Textile finishing, Use in Biotechnology, Use in leather tanning, finishing, impregnation, Professional applications, (outdoor use)

PW; SU5, SU10, SU14, SU15; ERC8e; PROC2, PROC3, PROC4, PROC5, PROC6, PROC8b, PROC9, PROC10, PROC11, PROC13, PROC14, PROC19, PROC26

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C; C; ERC8a, ERC8b, ERC8e; PC20, PC29, PC39

* * * * * * * * * * * * * * *

1. Short title of exposure scenario

Manufacture of substance, Distribution of substance, Industrial applications IS; IS; ERC1; PROC1, PROC2, PROC3, PROC4, PROC8b, PROC9, PROC15

Control of exposure and risk management measures

| 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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| Operational conditions | |
|------------------------|--|

| Contributing exposure scenario | |
|---|--|
| Use descriptors covered | PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions. Use domain: industrial |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to | its source |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 0.0343 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.000266 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 0.01 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.000227 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/ | /tra |

| 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 Use domain: industrial |
| Operational conditions | · |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |

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| Indoor/Outdoor | Indoor |
|---|---|
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to its source | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 1.3714 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.010639 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 0.5 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.011371 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/tra | |

| 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 Use domain: industrial | |
| Operational conditions | | |
| • | ammonium chloride | |
| Concentration of the substance | Content: >= 0 % - <= 100 % | |
| Physical state | Solid, medium dustiness | |
| Vapour pressure of the substance during use | 130 Pa | |
| Process temperature | 20 °C | |
| Duration and Frequency of activity | 480 min 5 days per week | |
| Indoor/Outdoor | Indoor | |
| Risk Management Measures | | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to its source | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |
| Exposure estimate | 0.6857 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.00532 | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - inhalation, long-term - systemic | |
| Exposure estimate | 1 mg/m ³ | |
| Risk Characterization Ratio (RCR) | 0.022743 | |
| Guidance to Downstream Users | | |
| For scaling see: http://www.ecetoc.org | /tra | |

| Contributing exposure scenario | |
|--------------------------------|--|
| Use descriptors covered | PROC4: Chemical production where opportunity for |

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| | exposure arises | |
|---|---|--|
| | Use domain: industrial | |
| 0 11 1 111 | | |
| Operational conditions | | |
| | ammonium chloride | |
| Concentration of the substance | Content: >= 0 % - <= 100 % | |
| Physical state | Solid, medium dustiness | |
| Vapour pressure of the substance | 130 Pa | |
| during use | | |
| | 20 °C | |
| Process temperature | | |
| Duration and Frequency of activity | 480 min 5 days per week | |
| Indoor/Outdoor | Indoor | |
| Risk Management Measures | | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to | its source | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |
| Exposure estimate | 6.8571 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.053197 | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - inhalation, long-term - systemic | |
| Exposure estimate | 5 mg/m³ | |
| Risk Characterization Ratio (RCR) | 0.113714 | |
| Guidance to Downstream Users | | |
| For scaling see: http://www.ecetoc.org/ | tra | |

| Contributing exposure scenario | | |
|---|--|--|
| Use descriptors covered | PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities Use domain: industrial | |
| Operational conditions | | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % | |
| Physical state | Solid, medium dustiness | |
| Vapour pressure of the substance during use | 130 Pa | |
| Process temperature | 20 °C | |
| Duration and Frequency of activity | 480 min 5 days per week | |
| Indoor/Outdoor | Indoor | |
| Risk Management Measures | | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to its source | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |

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| Exposure estimate | 13.7143 mg/kg bw/day |
|---|---|
| Risk Characterization Ratio (RCR) | 0.106395 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 1 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.022743 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/ | /tra |

| Contributing exposure scenario | | |
|---|--|--|
| Use descriptors covered | PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing). Use domain: industrial | |
| Operational conditions | | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % | |
| Physical state | Solid, medium dustiness | |
| Vapour pressure of the substance during use | 130 Pa | |
| Process temperature | 20 °C | |
| Duration and Frequency of activity | 480 min 5 days per week | |
| Indoor/Outdoor | Indoor | |
| Risk Management Measures | | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to | ts source | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |
| Exposure estimate | 6.8571 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.053197 | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - inhalation, long-term - systemic | |
| Exposure estimate | 5 mg/m³ | |
| Risk Characterization Ratio (RCR) | 0.113714 | |
| Guidance to Downstream Users | | |
| For scaling see: http://www.ecetoc.org/t | ra | |

| Contributing exposure scenario | | |
|---|--|--|
| Use descriptors covered | PROC15: Use a laboratory reagent. Use domain: industrial | |
| Operational conditions | | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % | |
| Physical state | Solid, medium dustiness | |
| Vapour pressure of the substance during use | 130 Pa | |

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| Process temperature | 20 °C | |
|---|---|--|
| Duration and Frequency of activity | 480 min 5 days per week | |
| Indoor/Outdoor | Indoor | |
| Risk Management Measures | | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to its source | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |
| Exposure estimate | 0.3429 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.00266 | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - inhalation, long-term - systemic | |
| Exposure estimate | 0.5 mg/m³ | |
| Risk Characterization Ratio (RCR) | 0.011371 | |
| Guidance to Downstream Users | | |
| For scaling see: http://www.ecetoc.org/tra | | |

2. Short title of exposure scenario

Formulation & (re)packing of substances and mixtures, Industrial applications IS; IS; ERC2; PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC13, PROC14, PROC15, PROC19, PROC26

Control of exposure and risk management measures

| 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. |
| Operational conditions | |

| Contributing exposure scenario | | | |
|---|--|--|--|
| Use descriptors covered | PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions. Use domain: industrial | | |
| Operational conditions | Operational conditions | | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % | | |
| Physical state | Solid, medium dustiness | | |
| Vapour pressure of the substance during use | 130 Pa | | |
| Process temperature | 20 °C | | |

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| Duration and Frequency of activity | 480 min 5 days per week |
|---|---|
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to its source | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 0.0343 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.000266 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 0.01 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.000227 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/tra | |

| 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 Use domain: industrial |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 1.3714 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.010639 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 0.5 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.011371 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/t | ra |

Contributing exposure scenario

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| 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 Use domain: industrial |
|---|--|
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to | its source |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 0.6857 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.00532 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 1 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.022743 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/t | tra |

| Contributing exposure scenario | |
|---|---|
| Use descriptors covered | PROC4: Chemical production where opportunity for exposure arises Use domain: industrial |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |
| Use suitable eye protection. | |

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| Exposure estimate and reference to its source | |
|---|---|
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 6.8571 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.053197 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 5 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.113714 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/ | /tra |

| Contributing exposure scenario | |
|---|---|
| Use descriptors covered | PROC5: Mixing or blending in batch processes Use domain: industrial |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to | its source |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 13.7143 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.106395 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 5 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.113714 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/ | /tra |

| Contributing exposure scenario | |
|--------------------------------|--|
| Use descriptors covered | PROC8a: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities Use domain: industrial |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % |

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| Physical state | Solid, medium dustiness | |
|---|---|--|
| Vapour pressure of the substance during use | 130 Pa | |
| Process temperature | 20 °C | |
| - Troops tomporature | 100 1 7 1 | |
| Duration and Frequency of activity | 480 min 5 days per week | |
| Indoor/Outdoor | Indoor | |
| Risk Management Measures | | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to its source | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |
| Exposure estimate | 13.7143 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.106395 | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - inhalation, long-term - systemic | |
| Exposure estimate | 5 mg/m³ | |
| Risk Characterization Ratio (RCR) | 0.113714 | |
| Guidance to Downstream Users | | |
| For scaling see: http://www.ecetoc.org/tra | | |

| Contributing exposure scenario | |
|---|--|
| Use descriptors covered | PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities Use domain: industrial |
| Operational conditions | 1 |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to | its source |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 13.7143 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.106395 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 1 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.022743 |
| Guidance to Downstream Users | |

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For scaling see: http://www.ecetoc.org/tra

| Contributing exposure scenario | |
|---|--|
| Use descriptors covered | PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing). Use domain: industrial |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 6.8571 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.053197 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 5 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.113714 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/ | ′tra |

| Contributing exposure scenario | |
|---|--|
| Use descriptors covered | PROC13: Treatment of articles by dipping and pouring. Use domain: industrial |
| Operational conditions | · |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |
| Use suitable eye protection. | |

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| Exposure estimate and reference to its source | |
|---|---|
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 13.7143 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.106395 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 1 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.022743 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/tra | |

| Contributing exposure scenario | |
|---|---|
| Use descriptors covered | PROC14: Tabletting, compression, extrusion, pelletisation, granulation Use domain: industrial |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to | its source |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 3.4286 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.026599 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 1 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.022743 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org | /tra |

| Contributing exposure scenario | |
|--------------------------------|--|
| Use descriptors covered | PROC15: Use a laboratory reagent. Use domain: industrial |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % |

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| Physical state | Solid, medium dustiness | |
|---|---|--|
| Vapour pressure of the substance | 130 Pa | |
| during use | | |
| Process temperature | 20 °C | |
| Duration and Frequency of activity | 480 min 5 days per week | |
| Indoor/Outdoor | Indoor | |
| Risk Management Measures | | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to its source | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |
| Exposure estimate | 0.3429 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.00266 | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - inhalation, long-term - systemic | |
| Exposure estimate | 0.5 mg/m ³ | |
| Risk Characterization Ratio (RCR) | 0.011371 | |
| Guidance to Downstream Users | | |
| For scaling see: http://www.ecetoc.org/tra | | |

| Contributing exposure scenario | |
|---|---|
| Use descriptors covered | PROC19: Manual activities involving hand contact Use domain: industrial |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |
| Use suitable chemically resistant gloves. | Effectiveness: 80 % |
| Use suitable eye protection. | |
| Exposure estimate and reference to | its source |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 28.2857 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.219439 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 5 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.113714 |

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

| Contributing exposure scenario | | |
|---|--|--|
| Use descriptors covered | PROC26: Handling of solid inorganic substances at ambient temperature Use domain: industrial | |
| Operational conditions | | |
| Physical state | Solid, medium dustiness | |
| Vapour pressure of the substance during use | 130 Pa | |
| Process temperature | 20 °C | |
| Risk Management Measures | | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to its source | | |
| Assessment method | Qualitative assessment | |
| Additional good practice advice | | |

There is no corresponding TRA entry concerning PROC 26 and thus, calculation of PROC 26 with

TRA is not possible. To approximately map the activities described by PROC 26, PROC 5, 8b and 9 were used. PROC 8b and 9 were used to address the transfer, packaging, unpacking, and weighing while PROC 5 addresses mixing and blending activities

There is no corresponding TRA entry concerning PROC 26 and thus, calculation of PROC 26 with TRA is not possible. To approximately map the activities described by PROC 26, PROC 5, 8b and 9 were used. PROC 8b and 9 were used to address the transfer, packaging, unpacking, and weighing while PROC 5 addresses mixing and blending activities

* * * * * * * * * * * * * * * * * * *

3. Short title of exposure scenario

Formulation & (re)packing of substances and mixtures, (solid preparations), Industrial applications IS; IS; ERC3; PROC2, PROC3, PROC4, PROC5, PROC6, PROC8b, PROC9, PROC13, PROC14, PROC15, PROC19, PROC26

Control of exposure and risk management measures

| 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. |
| Operational conditions | |

| 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 Use domain: industrial |

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| Operational conditions | | | |
|---|---|--|--|
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % | | |
| Concentration of the substance | Content. >= 0 % - <= 100 % | | |
| Physical state | Solid, medium dustiness | | |
| Vapour pressure of the substance during use | 130 Pa | | |
| Process temperature | 20 °C | | |
| Duration and Frequency of activity | 480 min 5 days per week | | |
| Indoor/Outdoor | Indoor | | |
| Risk Management Measures | | | |
| Use suitable eye protection. | | | |
| Exposure estimate and reference to | Exposure estimate and reference to its source | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | | |
| | Worker - dermal, long-term - systemic | | |
| Exposure estimate | 1.3714 mg/kg bw/day | | |
| Risk Characterization Ratio (RCR) | 0.010639 | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | | |
| | Worker - inhalation, long-term - systemic | | |
| Exposure estimate | 0.5 mg/m ³ | | |
| Risk Characterization Ratio (RCR) | 0.011371 | | |
| Guidance to Downstream Users | | | |
| For scaling see: http://www.ecetoc.org/ | tra | | |

| 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 Use domain: industrial |
| Operational conditions | |
| | ammonium chloride |
| Concentration of the substance | Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to its source | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |

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| Exposure estimate | 0.6857 mg/kg bw/day |
|---|---|
| Risk Characterization Ratio (RCR) | 0.00532 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 1 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.022743 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/ | tra |

| Contributing exposure scenario | | |
|---|---|--|
| Use descriptors covered | PROC4: Chemical production where opportunity for exposure arises Use domain: industrial | |
| Operational conditions | | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % | |
| Physical state | Solid, medium dustiness | |
| Vapour pressure of the substance during use | 130 Pa | |
| Process temperature | 20 °C | |
| Duration and Frequency of activity | 480 min 5 days per week | |
| Indoor/Outdoor | Indoor | |
| Risk Management Measures | | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to | its source | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |
| Exposure estimate | 6.8571 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.053197 | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - inhalation, long-term - systemic | |
| Exposure estimate | 5 mg/m³ | |
| Risk Characterization Ratio (RCR) | 0.113714 | |
| Guidance to Downstream Users | | |
| For scaling see: http://www.ecetoc.org/ | tra | |

| Contributing exposure scenario | |
|---|---|
| Use descriptors covered | PROC5: Mixing or blending in batch processes Use domain: industrial |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |

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| Process temperature | 20 °C |
|---|---|
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to its source | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 13.7143 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.106395 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 5 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.113714 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/tra | |

| Contributing exposure scenario | |
|--|---|
| - | PROC6: Calendering operations |
| Use descriptors covered | Use domain: industrial |
| | |
| Operational conditions | |
| | ammonium chloride |
| Concentration of the substance | Content: >= 0 % - <= 100 % |
| Dhariaalatata | Called and diseased and a second |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance | 130 Pa |
| during use | 00.00 |
| Process temperature | 20 °C |
| | 480 min 5 days per week |
| Duration and Frequency of activity | 400 min 3 days per week |
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to it | its source |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 27.4286 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.21279 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 5 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.113714 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/t | ra |

| Contributing exposure scenario | |
|--------------------------------|--|
| Use descriptors covered | PROC8b: Transfer of substance or mixture (charging and |

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| | discharging) at dedicated facilities Use domain: industrial |
|---|---|
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to | its source |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 13.7143 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.106395 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 1 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.022743 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org | /tra |

| Contributing exposure scenario | | |
|---|--|--|
| Use descriptors covered | PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing). Use domain: industrial | |
| Operational conditions | | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % | |
| Physical state | Solid, medium dustiness | |
| Vapour pressure of the substance during use | 130 Pa | |
| Process temperature | 20 °C | |
| Duration and Frequency of activity | 480 min 5 days per week | |
| Indoor/Outdoor | Indoor | |
| Risk Management Measures | | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to its source | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |

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| Exposure estimate | 6.8571 mg/kg bw/day |
|---|---|
| Risk Characterization Ratio (RCR) | 0.053197 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 5 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.113714 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/ | 'tra |

| Contributing exposure scenario | |
|---|--|
| Use descriptors covered | PROC13: Treatment of articles by dipping and pouring. Use domain: industrial |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 13.7143 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.106395 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 1 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.022743 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/ | fra |

| Contributing exposure scenario | | |
|---|---|--|
| Use descriptors covered | PROC14: Tabletting, compression, extrusion, pelletisation, granulation Use domain: industrial | |
| Operational conditions | | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % | |
| Physical state | Solid, medium dustiness | |
| Vapour pressure of the substance during use | 130 Pa | |

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| Process temperature | 20 °C | |
|---|---|--|
| Duration and Frequency of activity | 480 min 5 days per week | |
| Indoor/Outdoor | Indoor | |
| Risk Management Measures | | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to its source | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |
| Exposure estimate | 3.4286 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.026599 | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - inhalation, long-term - systemic | |
| Exposure estimate | 1 mg/m³ | |
| Risk Characterization Ratio (RCR) | 0.022743 | |
| Guidance to Downstream Users | | |
| For scaling see: http://www.ecetoc.org/tra | | |

| Contributing exposure scenario | | |
|--|---|--|
| - | PROC15: Use a laboratory reagent. | |
| Use descriptors covered | Use domain: industrial | |
| | | |
| Operational conditions | | |
| | ammonium chloride | |
| Concentration of the substance | Content: >= 0 % - <= 100 % | |
| BI I I I I | | |
| Physical state | Solid, medium dustiness | |
| Vapour pressure of the substance | 130 Pa | |
| during use | | |
| Process temperature | 20 °C | |
| , , , , , , , , , , , , , , , , , , , | 400 : 5 ! | |
| Duration and Frequency of activity | 480 min 5 days per week | |
| In dear/Outdean | ladas | |
| Indoor/Outdoor | Indoor | |
| Risk Management Measures | | |
| Use suitable eye protection. | <u> </u> | |
| Exposure estimate and reference to | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |
| Exposure estimate | 0.3429 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.00266 | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - inhalation, long-term - systemic | |
| Exposure estimate | 0.5 mg/m³ | |
| Risk Characterization Ratio (RCR) | 0.011371 | |
| Guidance to Downstream Users | | |
| For scaling see: http://www.ecetoc.org/t | ra | |

| Contributing exposure scenario | |
|--------------------------------|--|
| Use descriptors covered | PROC19: Manual activities involving hand contact |

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| | Use domain: industrial | | |
|---|---|--|--|
| Operational conditions | Operational conditions | | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % | | |
| Physical state | Solid, medium dustiness | | |
| Vapour pressure of the substance during use | 130 Pa | | |
| Process temperature | 20 °C | | |
| Duration and Frequency of activity | 480 min 5 days per week | | |
| Indoor/Outdoor | Indoor | | |
| Risk Management Measures | | | |
| Use suitable chemically resistant gloves. | Effectiveness: 80 % | | |
| Use suitable eye protection. | | | |
| Exposure estimate and reference to | its source | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | | |
| | Worker - dermal, long-term - systemic | | |
| Exposure estimate | 28.2857 mg/kg bw/day | | |
| Risk Characterization Ratio (RCR) | 0.219439 | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | | |
| | Worker - inhalation, long-term - systemic | | |
| Exposure estimate | 5 mg/m³ | | |
| Risk Characterization Ratio (RCR) | 0.113714 | | |
| Guidance to Downstream Users | | | |
| For scaling see: http://www.ecetoc.org/ | tra | | |

| O | | | |
|---|---|--|--|
| Contributing exposure scenario | | | |
| | PROC26: Handling of solid inorganic substances at | | |
| | ambient temperature | | |
| Use descriptors covered | Use domain: industrial | | |
| | Coo domain. Industrial | | |
| Operational conditions | | | |
| Physical state | Solid, medium dustiness | | |
| Vapour pressure of the substance | 130 Pa | | |
| during use | | | |
| | 20 °C | | |
| Process temperature | | | |
| Risk Management Measures | Risk Management Measures | | |
| Use suitable eye protection. | | | |
| Exposure estimate and reference to its source | | | |
| Assessment method | Qualitative assessment | | |
| Additional good practice advice | | | |
| There is no corresponding TRA entry concerning PROC 26 and thus, calculation of PROC 26 with | | | |
| TRA is not possible. To approximately map the activities described by PROC 26, PROC 5, 8b and 9 | | | |
| were used. PROC 8b and 9 were used to address the transfer, packaging, unpacking, and weighing | | | |
| while PROC 5 addresses mixing and blending activities | | | |
| There is no corresponding TRA entry concerning PROC 26 and thus, calculation of PROC 26 with | | | |

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TRA is not possible. To approximately map the activities described by PROC 26, PROC 5, 8b and 9 were used. PROC 8b and 9 were used to address the transfer, packaging, unpacking, and weighing while PROC 5 addresses mixing and blending activities

* * * * * * * * * * * * * * *

4. Short title of exposure scenario

Use as a Process chemical, Use in Metallurgy, Use for Electroplating, Use in Textile finishing, Use in Biotechnology, Use in leather tanning, finishing, impregnation, Industrial applications IS; SU5, SU9, SU14, SU15, SU24; ERC4; PROC2, PROC3, PROC4, PROC5, PROC6, PROC8b, PROC9, PROC10, PROC13, PROC15, PROC22, PROC23, PROC24, PROC25, PROC26

Control of exposure and risk management measures

| 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. |
| Operational conditions | |

| 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 Use domain: industrial | |
| Operational conditions | | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % | |
| Physical state | Solid, medium dustiness | |
| Vapour pressure of the substance during use | 130 Pa | |
| Process temperature | 20 °C | |
| Duration and Frequency of activity | 480 min 5 days per week | |
| Indoor/Outdoor | Indoor | |
| Risk Management Measures | | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |
| Exposure estimate | 1.3714 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.010639 | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - inhalation, long-term - systemic | |

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| Exposure estimate | 0.5 mg/m³ |
|--|-----------|
| Risk Characterization Ratio (RCR) | 0.011371 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/tra | |

| 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 Use domain: industrial |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 0.6857 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.00532 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 1 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.022743 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org | /tra |

| Contributing exposure scenario | | |
|---|---|--|
| Use descriptors covered | PROC4: Chemical production where opportunity for exposure arises Use domain: industrial | |
| Operational conditions | | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % | |
| Physical state | Solid, medium dustiness | |
| Vapour pressure of the substance during use | 130 Pa | |
| Process temperature | 20 °C | |

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Product: Ammonium chloride RWS food grade

(ID no. 30042426/SDS_GEN_IE/EN)

| Duration and Frequency of activity | 480 min 5 days per week |
|---|---|
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to its source | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 6.8571 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.053197 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 5 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.113714 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/tra | |

| Contributing exposure scenario | | |
|---|---|--|
| Use descriptors covered | PROC5: Mixing or blending in batch processes Use domain: industrial | |
| Operational conditions | | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % | |
| Physical state | Solid, medium dustiness | |
| Vapour pressure of the substance during use | 130 Pa | |
| Process temperature | 20 °C | |
| Duration and Frequency of activity | 480 min 5 days per week | |
| Indoor/Outdoor | Indoor | |
| Risk Management Measures | | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to its source | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |
| Exposure estimate | 13.7143 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.106395 | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - inhalation, long-term - systemic | |
| Exposure estimate | 5 mg/m³ | |
| Risk Characterization Ratio (RCR) | 0.113714 | |
| Guidance to Downstream Users | | |
| For scaling see: http://www.ecetoc.org/tra | | |

| Contributing exposure scenario | |
|--------------------------------|-------------------------------|
| Use descriptors covered | PROC6: Calendering operations |
| | Use domain: industrial |

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| Operational conditions | | | |
|---|---|--|--|
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % | | |
| Physical state | Solid, medium dustiness | | |
| Vapour pressure of the substance during use | 130 Pa | | |
| Process temperature | 20 °C | | |
| Duration and Frequency of activity | 480 min 5 days per week | | |
| Indoor/Outdoor | Indoor | | |
| Risk Management Measures | | | |
| Use suitable eye protection. | | | |
| Exposure estimate and reference to | Exposure estimate and reference to its source | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | | |
| | Worker - dermal, long-term - systemic | | |
| Exposure estimate | 27.4286 mg/kg bw/day | | |
| Risk Characterization Ratio (RCR) | 0.21279 | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | | |
| | Worker - inhalation, long-term - systemic | | |
| Exposure estimate | 5 mg/m³ | | |
| Risk Characterization Ratio (RCR) | 0.113714 | | |
| Guidance to Downstream Users | | | |
| For scaling see: http://www.ecetoc.org | /tra | | |

| Contributing exposure scenario | |
|---|--|
| Use descriptors covered | PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities Use domain: industrial |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to its source | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 13.7143 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.106395 |

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Product: Ammonium chloride RWS food grade

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| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
|--|---|
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 1 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.022743 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/tra | |

| Contributing exposure scenario | |
|---|--|
| Use descriptors covered | PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing). Use domain: industrial |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to | its source |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 6.8571 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.053197 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 5 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.113714 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/ | tra |

| Contributing exposure scenario | |
|----------------------------------|---|
| Use descriptors covered | PROC10: Roller application or brushing Use domain: industrial |
| Ose descriptors covered | Ose domain. Industrial |
| Operational conditions | |
| | ammonium chloride |
| Concentration of the substance | Content: >= 0 % - <= 100 % |
| | |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance | 130 Pa |
| during use | |
| Process temperature | 20 °C |

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| Duration and Frequency of activity | 480 min 5 days per week |
|--|---|
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to | its source |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 27.4286 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.21279 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 5 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.113714 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/tra | |

| Contributing exposure scenario | | |
|---|--|--|
| Use descriptors covered | PROC13: Treatment of articles by dipping and pouring. Use domain: industrial | |
| Operational conditions | | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % | |
| Physical state | Solid, medium dustiness | |
| Vapour pressure of the substance during use | 130 Pa | |
| Process temperature | 20 °C | |
| Duration and Frequency of activity | 480 min 5 days per week | |
| Indoor/Outdoor | Indoor | |
| Risk Management Measures | | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |
| Exposure estimate | 13.7143 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.106395 | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - inhalation, long-term - systemic | |
| Exposure estimate | 1 mg/m³ | |
| Risk Characterization Ratio (RCR) | 0.022743 | |
| Guidance to Downstream Users | | |
| For scaling see: http://www.ecetoc.org/ | ira | |

| Contributing exposure scenario | |
|--------------------------------|--|
| Use descriptors covered | PROC15: Use a laboratory reagent. Use domain: industrial |

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| Operational conditions | | | |
|---|---|--|--|
| | ammonium chloride | | |
| Concentration of the substance | Content: >= 0 % - <= 100 % | | |
| | | | |
| Physical state | Solid, medium dustiness | | |
| Vapour pressure of the substance | 130 Pa | | |
| during use | | | |
| Process temperature | 20 °C | | |
| Duration and Frequency of activity | 480 min 5 days per week | | |
| Indoor/Outdoor | Indoor | | |
| Risk Management Measures | | | |
| Use suitable eye protection. | | | |
| Exposure estimate and reference to | Exposure estimate and reference to its source | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | | |
| | Worker - dermal, long-term - systemic | | |
| Exposure estimate | 0.3429 mg/kg bw/day | | |
| Risk Characterization Ratio (RCR) | 0.00266 | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | | |
| | Worker - inhalation, long-term - systemic | | |
| Exposure estimate | 0.5 mg/m³ | | |
| Risk Characterization Ratio (RCR) | 0.011371 | | |
| Guidance to Downstream Users | | | |
| For scaling see: http://www.ecetoc.org/ | tra | | |

| Contributing exposure scenario | | |
|---|---|--|
| Use descriptors covered | PROC22: Manufacturing and processing of minerals and/or metals at substantially elevated temperature Use domain: industrial | |
| Operational conditions | | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % | |
| Physical state | Solid, low dustiness | |
| Vapour pressure of the substance during use | 130 Pa | |
| Process temperature | 20 °C | |
| Duration and Frequency of activity | 480 min 5 days per week | |
| Indoor/Outdoor | Indoor | |
| Risk Management Measures | | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to its source | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |
| Exposure estimate | 2.8286 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.021944 | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |

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| | Worker - inhalation, long-term - systemic |
|--|---|
| Exposure estimate | 1 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.022743 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/tra | |

| Contributing exposure scenario | |
|---|--|
| Use descriptors covered | PROC23: Open processing and transfer operations at substantially elevated temperature Use domain: industrial |
| Operational conditions | 1 |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % |
| Physical state | Solid, low dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 1.4143 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.010972 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 1 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.022743 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/ | tra |

| Contributing exposure scenario | | |
|---|--|--|
| Use descriptors covered | PROC24: High (mechanical) energy work-up of substances bound in /on materials and/or articles Use domain: industrial | |
| Operational conditions | | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % | |
| Physical state | Solid, low dustiness | |
| Vapour pressure of the substance during use | 130 Pa | |
| Process temperature | 20 °C | |

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Product: Ammonium chloride RWS food grade

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| Duration and Frequency of activity | 480 min 5 days per week | |
|---|---|--|
| Indoor/Outdoor | Indoor | |
| Risk Management Measures | | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to its source | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |
| Exposure estimate | 2.8286 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.021944 | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - inhalation, long-term - systemic | |
| Exposure estimate | 1 mg/m³ | |
| Risk Characterization Ratio (RCR) | 0.022743 | |
| Guidance to Downstream Users | | |
| For scaling see: http://www.ecetoc.org/tra | | |

| Contributing exposure scenario | |
|---|---|
| · | PROC25: Other hot work operations with metals |
| Use descriptors covered | Use domain: industrial |
| Operational conditions | |
| | ammonium chloride |
| Concentration of the substance | Content: >= 0 % - <= 100 % |
| Physical state | Solid, low dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to it | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 0.2829 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.002194 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 5 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.113714 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/tra | |

| Contributing exposure scenario | |
|--------------------------------|---|
| | PROC26: Handling of solid inorganic substances at |
| Use descriptors covered | ambient temperature |
| | Use domain: industrial |

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| Operational conditions | |
|---|--|
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Risk Management Measures | • |
| Use suitable eye protection. | |
| Exposure estimate and reference to its source | |
| Assessment method | Qualitative assessment |
| Additional good practice advice | |
| | concerning PROC 26 and thus, calculation of PROC 26 with y map the activities described by PROC 26, PROC 5, 8b and 9 |

There is no corresponding TRA entry concerning PROC 26 and thus, calculation of PROC 26 with TRA is not possible. To approximately map the activities described by PROC 26, PROC 5, 8b and 9 were used. PROC 8b and 9 were used to address the transfer, packaging, unpacking, and weighing while PROC 5 addresses mixing and blending activities

There is no corresponding TRA entry concerning PROC 26 and thus, calculation of PROC 26 with TRA is not possible. To approximately map the activities described by PROC 26, PROC 5, 8b and 9 were used. PROC 8b and 9 were used to address the transfer, packaging, unpacking, and weighing while PROC 5 addresses mixing and blending activities

* * * * * * * * * * * * * * * *

5. Short title of exposure scenario

Production of pharmaceutical products, Use in Personal care products, Use in/as Flavouring agent(s), Use in cosmetics, Industrial applications IS; SU4, SU20; ERC4; PROC5, PROC14

Control of exposure and risk management measures

| 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. |
| Operational conditions | |

| Contributing exposure scenario | | |
|---|---|--|
| Use descriptors covered | PROC5: Mixing or blending in batch processes Use domain: industrial | |
| Operational conditions | | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % | |
| Physical state | Solid, medium dustiness | |
| Vapour pressure of the substance during use | 130 Pa | |

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| Process temperature | 20 °C |
|---|---|
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to its source | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 13.7143 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.106395 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 5 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.113714 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/tra | |

| Contributing exposure scenario | | |
|---|---|--|
| Use descriptors covered | PROC14: Tabletting, compression, extrusion, pelletisation, granulation Use domain: industrial | |
| Operational conditions | | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % | |
| Physical state | Solid, medium dustiness | |
| Vapour pressure of the substance during use | 130 Pa | |
| Process temperature | 20 °C | |
| Duration and Frequency of activity | 480 min 5 days per week | |
| Indoor/Outdoor | Indoor | |
| Risk Management Measures | | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to | its source | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |
| Exposure estimate | 3.4286 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.026599 | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - inhalation, long-term - systemic | |
| Exposure estimate | 1 mg/m ³ | |
| Risk Characterization Ratio (RCR) | 0.022743 | |
| Guidance to Downstream Users | | |
| For scaling see: http://www.ecetoc.org/ | tra | |

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* * * * * * * * * * * * * * * *

6. Short title of exposure scenario

Use in Batteries, Production, (solid preparations), Industrial applications IS; SU6b, SU8, SU16; ERC5; PROC2, PROC3, PROC4, PROC5, PROC6, PROC8b, PROC9, PROC10, PROC13, PROC14, PROC15, PROC19, PROC21, PROC26

Control of exposure and risk management measures

| 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. |
| Operational conditions | |

| 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 Use domain: industrial | |
| Operational conditions | | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % | |
| Physical state | Solid, medium dustiness | |
| Vapour pressure of the substance during use | 130 Pa | |
| Process temperature | 20 °C | |
| Duration and Frequency of activity | 480 min 5 days per week | |
| Indoor/Outdoor | Indoor | |
| Risk Management Measures | | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to its source | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |
| Exposure estimate | 1.3714 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.010639 | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - inhalation, long-term - systemic | |
| Exposure estimate | 0.5 mg/m ³ | |
| Risk Characterization Ratio (RCR) | 0.011371 | |
| Guidance to Downstream Users | | |
| For scaling see: http://www.ecetoc.org/t | ra | |

Contributing exposure scenario

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| 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 Use domain: industrial |
|---|--|
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Indoor |
| Risk Management Measures | • |
| Use suitable eye protection. | |
| Exposure estimate and reference to | its source |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 0.6857 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.00532 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 1 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.022743 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/ | 'tra |

| Contributing exposure scenario | |
|---|---|
| Use descriptors covered | PROC4: Chemical production where opportunity for exposure arises Use domain: industrial |
| Operational conditions | |
| | ammonium chloride |
| Concentration of the substance | Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |
| Use suitable eye protection. | |

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| Exposure estimate and reference to its source | |
|---|---|
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 6.8571 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.053197 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 5 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.113714 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/tra | |

| Contributing exposure scenario | | |
|---|---|--|
| Use descriptors covered | PROC5: Mixing or blending in batch processes Use domain: industrial | |
| Operational conditions | 1 | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % | |
| Physical state | Solid, medium dustiness | |
| Vapour pressure of the substance during use | 130 Pa | |
| Process temperature | 20 °C | |
| Duration and Frequency of activity | 480 min 5 days per week | |
| Indoor/Outdoor | Indoor | |
| Risk Management Measures | | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |
| Exposure estimate | 13.7143 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.106395 | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - inhalation, long-term - systemic | |
| Exposure estimate | 5 mg/m³ | |
| Risk Characterization Ratio (RCR) | 0.113714 | |
| Guidance to Downstream Users | | |
| For scaling see: http://www.ecetoc.org/ | tra | |

| Contributing exposure scenario | | |
|--------------------------------|--|--|
| Use descriptors covered | PROC6: Calendering operations Use domain: industrial | |
| Operational conditions | | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % | |
| Physical state | Solid, medium dustiness | |

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| Vapour pressure of the substance during use | 130 Pa | |
|---|---|--|
| Process temperature | 20 °C | |
| Duration and Frequency of activity | 480 min 5 days per week | |
| Indoor/Outdoor | Indoor | |
| Risk Management Measures | | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to its source | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |
| Exposure estimate | 27.4286 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.21279 | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - inhalation, long-term - systemic | |
| Exposure estimate | 5 mg/m³ | |
| Risk Characterization Ratio (RCR) | 0.113714 | |
| Guidance to Downstream Users | | |
| For scaling see: http://www.ecetoc.org/tra | | |

| Contributing exposure scenario | | |
|---|--|--|
| Use descriptors covered | PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities Use domain: industrial | |
| Operational conditions | | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % | |
| Physical state | Solid, medium dustiness | |
| Vapour pressure of the substance during use | 130 Pa | |
| Process temperature | 20 °C | |
| Duration and Frequency of activity | 480 min 5 days per week | |
| Indoor/Outdoor | Indoor | |
| Risk Management Measures | | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |
| Exposure estimate | 13.7143 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.106395 | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - inhalation, long-term - systemic | |
| Exposure estimate | 1 mg/m³ | |
| Risk Characterization Ratio (RCR) | 0.022743 | |
| Guidance to Downstream Users | | |
| For scaling see: http://www.ecetoc.org/ | tra | |

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| Contributing exposure scenario | |
|---|--|
| Use descriptors covered | PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing). Use domain: industrial |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to | its source |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 6.8571 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.053197 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 5 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.113714 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/ | tra |

| Contributing exposure scenario | | |
|---|--|--|
| | PROC10: Roller application or brushing | |
| Use descriptors covered | Use domain: industrial | |
| | | |
| Operational conditions | | |
| | ammonium chloride | |
| Concentration of the substance | Content: >= 0 % - <= 100 % | |
| | | |
| Physical state | Solid, medium dustiness | |
| Vapour pressure of the substance | 130 Pa | |
| during use | | |
| Dragon temperature | 20 °C | |
| Process temperature | | |
| Darker and Francisco of and the | 480 min 5 days per week | |
| Duration and Frequency of activity | | |
| Indoor/Outdoor | Indoor | |
| Risk Management Measures | | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to its source | | |

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| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
|--|---|
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 27.4286 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.21279 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 5 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.113714 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/tra | |

| Contributing exposure scenario | | |
|---|--|--|
| Use descriptors covered | PROC13: Treatment of articles by dipping and pouring. Use domain: industrial | |
| Operational conditions | 1 | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % | |
| Physical state | Solid, medium dustiness | |
| Vapour pressure of the substance during use | 130 Pa | |
| Process temperature | 20 °C | |
| Duration and Frequency of activity | 480 min 5 days per week | |
| Indoor/Outdoor | Indoor | |
| Risk Management Measures | • | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |
| Exposure estimate | 13.7143 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.106395 | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - inhalation, long-term - systemic | |
| Exposure estimate | 1 mg/m³ | |
| Risk Characterization Ratio (RCR) | 0.022743 | |
| Guidance to Downstream Users | | |
| For scaling see: http://www.ecetoc.org/ | tra | |

| Contributing exposure scenario | | |
|--------------------------------|---|--|
| Use descriptors covered | PROC14: Tabletting, compression, extrusion, pelletisation, granulation Use domain: industrial | |
| Operational conditions | | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % | |
| Physical state | Solid, medium dustiness | |

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| Vapour pressure of the substance during use | 130 Pa | |
|---|---|--|
| Process temperature | 20 °C | |
| Duration and Frequency of activity | 480 min 5 days per week | |
| Indoor/Outdoor | Indoor | |
| Risk Management Measures | | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to its source | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |
| Exposure estimate | 3.4286 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.026599 | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - inhalation, long-term - systemic | |
| Exposure estimate | 1 mg/m³ | |
| Risk Characterization Ratio (RCR) | 0.022743 | |
| Guidance to Downstream Users | | |
| For scaling see: http://www.ecetoc.org/tra | | |

| Contributing exposure scenario | Contributing exposure scenario | |
|---|--|--|
| Use descriptors covered | PROC15: Use a laboratory reagent. Use domain: industrial | |
| Operational conditions | | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % | |
| Physical state | Solid, medium dustiness | |
| Vapour pressure of the substance during use | 130 Pa | |
| Process temperature | 20 °C | |
| Duration and Frequency of activity | 480 min 5 days per week | |
| Indoor/Outdoor | Indoor | |
| Risk Management Measures | | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |
| Exposure estimate | 0.3429 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.00266 | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - inhalation, long-term - systemic | |
| Exposure estimate | 0.5 mg/m ³ | |
| Risk Characterization Ratio (RCR) | 0.011371 | |
| Guidance to Downstream Users | | |
| For scaling see: http://www.ecetoc.org/ | /tra | |

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| Contributing exposure scenario | |
|---|---|
| Llos descriptors severed | PROC19: Manual activities involving hand contact Use domain: industrial |
| Use descriptors covered | Ose domain: industrial |
| Operational conditions | |
| | ammonium chloride |
| Concentration of the substance | Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance | 130 Pa |
| during use | |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |
| Use suitable chemically resistant | Effectiveness: 80 % |
| gloves. | LifeCliveriess. 00 /0 |
| Use suitable eye protection. | |
| Exposure estimate and reference to | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 28.2857 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.219439 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 5 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.113714 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/ | ra |

| Contributing exposure scenario | |
|---|---|
| Use descriptors covered | PROC21: Low energy manipulation and handling of substances bound in/on materials or articles Use domain: industrial |
| Operational conditions | · |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |
| Use suitable eye protection. | |

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| Exposure estimate and reference to its source | |
|---|---|
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 2.8286 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.021944 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 3 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.068228 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/tra | |

| Contributing exposure scenario | | | |
|---|--|--|--|
| Use descriptors covered | PROC26: Handling of solid inorganic substances at ambient temperature Use domain: industrial | | |
| Operational conditions | | | |
| Physical state | Solid, medium dustiness | | |
| Vapour pressure of the substance during use | 130 Pa | | |
| Process temperature | 20 °C | | |
| Risk Management Measures | Risk Management Measures | | |
| Use suitable eye protection. | | | |
| Exposure estimate and reference to its source | | | |
| Assessment method | Qualitative assessment | | |
| Additional good practice advice | | | |

There is no corresponding TRA entry concerning PROC 26 and thus, calculation of PROC 26 with TRA is not possible. To approximately map the activities described by PROC 26, PROC 5, 8b and 9 were used. PROC 8b and 9 were used to address the transfer, packaging, unpacking, and weighing while PROC 5 addresses mixing and blending activities

There is no corresponding TRA entry concerning PROC 26 and thus, calculation of PROC 26 with TRA is not possible. To approximately map the activities described by PROC 26, PROC 5, 8b and 9 were used. PROC 8b and 9 were used to address the transfer, packaging, unpacking, and weighing while PROC 5 addresses mixing and blending activities

* * * * * * * * * * * * * * * *

7. Short title of exposure scenario

Use as an intermediate, Production of Fertilizers, Formulation of catalysts, Industrial applications IS; SU1, SU8; ERC6a; PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC13, PROC14, PROC15, PROC26

Control of exposure and risk management measures

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

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| | characterization was performed. |
|------------------------|---------------------------------|
| Operational conditions | |

| O and with setting as a consequence of a | |
|---|--|
| Contributing exposure scenario | T B B B B B B B B B B B B B B B B B B B |
| | PROC2: Chemical production or refinery in closed continuous process with occasional controlled exposure or |
| Use descriptors covered | processes with equivalent containment conditions Use domain: industrial |
| Operational conditions | |
| • | ammonium chloride |
| Concentration of the substance | Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to | its source |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 1.3714 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.010639 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 0.5 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.011371 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/ | tra |

| 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 Use domain: industrial | |
| Operational conditions | | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % | |
| Physical state | Solid, medium dustiness | |
| Vapour pressure of the substance during use | 130 Pa | |
| Process temperature | 20 °C | |

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| Duration and Frequency of activity | 480 min 5 days per week |
|---|---|
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to its source | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 0.6857 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.00532 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 1 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.022743 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/tra | |

| Contributing exposure scenario | Contributing exposure scenario | |
|---|---|--|
| Use descriptors covered | PROC4: Chemical production where opportunity for exposure arises Use domain: industrial | |
| Operational conditions | | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % | |
| Physical state | Solid, medium dustiness | |
| Vapour pressure of the substance during use | 130 Pa | |
| Process temperature | 20 °C | |
| Duration and Frequency of activity | 480 min 5 days per week | |
| Indoor/Outdoor | Indoor | |
| Risk Management Measures | | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to | its source | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |
| Exposure estimate | 6.8571 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.053197 | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - inhalation, long-term - systemic | |
| Exposure estimate | 5 mg/m³ | |
| Risk Characterization Ratio (RCR) | 0.113714 | |
| Guidance to Downstream Users | | |
| For scaling see: http://www.ecetoc.org/ | tra | |

| Contributing exposure scenario | |
|--------------------------------|--|
| Use descriptors covered | PROC5: Mixing or blending in batch processes |

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| | Use domain: industrial | |
|---|---|--|
| Operational conditions | | |
| _ | ammonium chloride | |
| Concentration of the substance | Content: >= 0 % - <= 100 % | |
| Physical state | Solid, medium dustiness | |
| Vapour pressure of the substance during use | 130 Pa | |
| Process temperature | 20 °C | |
| Duration and Frequency of activity | 480 min 5 days per week | |
| Indoor/Outdoor | Indoor | |
| Risk Management Measures | | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to | its source | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |
| Exposure estimate | 13.7143 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.106395 | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - inhalation, long-term - systemic | |
| Exposure estimate | 5 mg/m³ | |
| Risk Characterization Ratio (RCR) | 0.113714 | |
| Guidance to Downstream Users | | |
| For scaling see: http://www.ecetoc.org/t | ra | |

| Contributing exposure scenario | | |
|---|--|--|
| Use descriptors covered | PROC8a: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities Use domain: industrial | |
| Operational conditions | | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % | |
| Physical state | Solid, medium dustiness | |
| Vapour pressure of the substance during use | 130 Pa | |
| Process temperature | 20 °C | |
| Duration and Frequency of activity | 480 min 5 days per week | |
| Indoor/Outdoor | Indoor | |
| Risk Management Measures | Risk Management Measures | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to its source | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |
| Exposure estimate | 13.7143 mg/kg bw/day | |

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| Risk Characterization Ratio (RCR) | 0.106395 |
|--|---|
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 5 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.113714 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/tra | |

| Contributing exposure scenario | |
|---|--|
| Use descriptors covered | PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities Use domain: industrial |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to | ts source |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 13.7143 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.106395 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 1 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.022743 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/t | ra |

| Contributing exposure scenario | | |
|---|--|--|
| Use descriptors covered | PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing). Use domain: industrial | |
| Operational conditions | | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % | |
| Physical state | Solid, medium dustiness | |
| Vapour pressure of the substance during use | 130 Pa | |

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| Process temperature | 20 °C |
|---|---|
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to its source | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 6.8571 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.053197 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 5 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.113714 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/t | ra |

| Contributing exposure scenario | Contributing exposure scenario | |
|--|---|--|
| | PROC13: Treatment of articles by dipping and pouring. | |
| Use descriptors covered | Use domain: industrial | |
| One watio wall as mulitions | | |
| Operational conditions | | |
| | ammonium chloride | |
| Concentration of the substance | Content: >= 0 % - <= 100 % | |
| Physical state | Solid, medium dustiness | |
| Vapour pressure of the substance | 130 Pa | |
| during use | | |
| Process temperature | 20 °C | |
| 1 Toods temperature | | |
| Duration and Frequency of activity | 480 min 5 days per week | |
| Indoor/Outdoor | Indoor | |
| Risk Management Measures | | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to | its source | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |
| Exposure estimate | 13.7143 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.106395 | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - inhalation, long-term - systemic | |
| Exposure estimate | 1 mg/m³ | |
| Risk Characterization Ratio (RCR) | 0.022743 | |
| Guidance to Downstream Users | | |
| For scaling see: http://www.ecetoc.org/t | ra | |

| Contributing exposure scenario | |
|--------------------------------|--|
| Use descriptors covered | PROC14: Tabletting, compression, extrusion, pelletisation, |

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Product: Ammonium chloride RWS food grade

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| | granulation | | |
|--|---|--|--|
| | Use domain: industrial | | |
| | | | |
| Operational conditions | | | |
| | ammonium chloride | | |
| Concentration of the substance | Content: >= 0 % - <= 100 % | | |
| Physical state | Solid, medium dustiness | | |
| Vapour pressure of the substance | 130 Pa | | |
| during use | | | |
| | 20 °C | | |
| Process temperature | | | |
| Duration and Frequency of activity | 480 min 5 days per week | | |
| · · · · · | | | |
| Indoor/Outdoor | Indoor | | |
| Risk Management Measures | Risk Management Measures | | |
| Use suitable eye protection. | | | |
| Exposure estimate and reference to | its source | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | | |
| | Worker - dermal, long-term - systemic | | |
| Exposure estimate | 3.4286 mg/kg bw/day | | |
| Risk Characterization Ratio (RCR) | 0.026599 | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | | |
| | Worker - inhalation, long-term - systemic | | |
| Exposure estimate | 1 mg/m³ | | |
| Risk Characterization Ratio (RCR) | 0.022743 | | |
| Guidance to Downstream Users | | | |
| For scaling see: http://www.ecetoc.org/t | ra | | |

| Contributing exposure scenario | | | |
|---|--|--|--|
| | PROC15: Use a laboratory reagent. | | |
| Use descriptors covered | Use domain: industrial | | |
| | | | |
| Operational conditions | Operational conditions | | |
| | ammonium chloride | | |
| Concentration of the substance | Content: >= 0 % - <= 100 % | | |
| | | | |
| Physical state | Solid, medium dustiness | | |
| Vapour pressure of the substance | 130 Pa | | |
| during use | | | |
| Process temperature | 20 °C | | |
| 1 redeas temperature | | | |
| Duration and Frequency of activity | 480 min 5 days per week | | |
| , , , | | | |
| Indoor/Outdoor | Indoor | | |
| Risk Management Measures | | | |
| Use suitable eye protection. | | | |
| Exposure estimate and reference to its source | | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | | |
| | Worker - dermal, long-term - systemic | | |
| Exposure estimate | 0.3429 mg/kg bw/day | | |

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| Risk Characterization Ratio (RCR) | 0.00266 |
|--|---|
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 0.5 mg/m ³ |
| Risk Characterization Ratio (RCR) | 0.011371 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/tra | |

| Contributing exposure scenario | |
|---|--|
| Use descriptors covered | PROC26: Handling of solid inorganic substances at ambient temperature Use domain: industrial |
| Operational conditions | |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to its source | |
| Assessment method | Qualitative assessment |
| Additional good practice advice | |

There is no corresponding TRA entry concerning PROC 26 and thus, calculation of PROC 26 with TRA is not possible. To approximately map the activities described by PROC 26, PROC 5, 8b and 9 were used. PROC 8b and 9 were used to address the transfer, packaging, unpacking, and weighing while PROC 5 addresses mixing and blending activities

There is no corresponding TRA entry concerning PROC 26 and thus, calculation of PROC 26 with TRA is not possible. To approximately map the activities described by PROC 26, PROC 5, 8b and 9 were used. PROC 8b and 9 were used to address the transfer, packaging, unpacking, and weighing while PROC 5 addresses mixing and blending activities

8. Short title of exposure scenario

Use as Reactive process agent, Use in Metallurgy, Use in Metal surface treatment, Use in Textile finishing, Use in leather tanning, finishing, impregnation, Use in Biotechnology, Industrial applications IS; SU5, SU9, SU14, SU15, SU24; ERC6b; PROC2, PROC3, PROC4, PROC5, PROC6, PROC8b, PROC9, PROC10, PROC13, PROC15, PROC22, PROC23, PROC25, PROC26

Control of exposure and risk management measures

| 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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Product: Ammonium chloride RWS food grade

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Operational conditions

| 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 Use domain: industrial | |
| Operational conditions | | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % | |
| Physical state | Solid, medium dustiness | |
| Vapour pressure of the substance during use | 130 Pa | |
| Process temperature | 20 °C | |
| Duration and Frequency of activity | 480 min 5 days per week | |
| Indoor/Outdoor | Indoor | |
| Risk Management Measures | | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |
| Exposure estimate | 1.3714 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.010639 | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - inhalation, long-term - systemic | |
| Exposure estimate | 0.5 mg/m³ | |
| Risk Characterization Ratio (RCR) | 0.011371 | |
| Guidance to Downstream Users | | |
| For scaling see: http://www.ecetoc.org | /tra | |

| 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 Use domain: industrial | |
| Operational conditions | | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % | |
| Physical state | Solid, medium dustiness | |
| Vapour pressure of the substance during use | 130 Pa | |
| Process temperature | 20 °C | |
| Duration and Frequency of activity | 480 min 5 days per week | |

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BASF Safety data sheet according to Regulation (EC) No. 1907/2006 as amended from time to time.

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| Indoor/Outdoor | Indoor | |
|---|---|--|
| Risk Management Measures | Risk Management Measures | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to its source | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |
| Exposure estimate | 0.6857 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.00532 | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - inhalation, long-term - systemic | |
| Exposure estimate | 1 mg/m³ | |
| Risk Characterization Ratio (RCR) | 0.022743 | |
| Guidance to Downstream Users | | |
| For scaling see: http://www.ecetoc.org/tra | | |

| Contributing exposure scenario | |
|---|---|
| Use descriptors covered | PROC4: Chemical production where opportunity for exposure arises Use domain: industrial |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 6.8571 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.053197 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 5 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.113714 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/ | tra |

| Contributing exposure scenario | |
|--------------------------------|---|
| Use descriptors covered | PROC5: Mixing or blending in batch processes Use domain: industrial |

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| Operational conditions | | | |
|---|---|--|--|
| | ammonium chloride | | |
| Concentration of the substance | Content: >= 0 % - <= 100 % | | |
| | | | |
| Physical state | Solid, medium dustiness | | |
| Vapour pressure of the substance | 130 Pa | | |
| during use | | | |
| Process temperature | 20 °C | | |
| Duration and Frequency of activity | 480 min 5 days per week | | |
| Indoor/Outdoor | Indoor | | |
| Risk Management Measures | Risk Management Measures | | |
| Use suitable eye protection. | | | |
| Exposure estimate and reference to | its source | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | | |
| | Worker - dermal, long-term - systemic | | |
| Exposure estimate | 13.7143 mg/kg bw/day | | |
| Risk Characterization Ratio (RCR) | 0.106395 | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | | |
| | Worker - inhalation, long-term - systemic | | |
| Exposure estimate | 5 mg/m³ | | |
| Risk Characterization Ratio (RCR) | 0.113714 | | |
| Guidance to Downstream Users | | | |
| For scaling see: http://www.ecetoc.org/ | tra | | |

| Contributing exposure scenario | | |
|---|---|--|
| | PROC6: Calendering operations | |
| Use descriptors covered | Use domain: industrial | |
| | | |
| Operational conditions | | |
| | ammonium chloride | |
| Concentration of the substance | Content: >= 0 % - <= 100 % | |
| Physical state | Solid, medium dustiness | |
| Vapour pressure of the substance | 130 Pa | |
| during use | 1301 a | |
| | 20 °C | |
| Process temperature | | |
| Duration and Frequency of activity | 480 min 5 days per week | |
| Indoor/Outdoor | Indoor | |
| Risk Management Measures | | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to its source | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |
| Exposure estimate | 27.4286 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.21279 | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - inhalation, long-term - systemic | |

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| Exposure estimate | 5 mg/m³ |
|--|----------|
| Risk Characterization Ratio (RCR) | 0.113714 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/tra | |

| Contributing exposure scenario | | |
|---|--|--|
| Use descriptors covered | PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities Use domain: industrial | |
| Operational conditions | | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % | |
| Physical state | Solid, medium dustiness | |
| Vapour pressure of the substance during use | 130 Pa | |
| Process temperature | 20 °C | |
| Duration and Frequency of activity | 480 min 5 days per week | |
| Indoor/Outdoor | Indoor | |
| Risk Management Measures | | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to it | ts source | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |
| Exposure estimate | 13.7143 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.106395 | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - inhalation, long-term - systemic | |
| Exposure estimate | 1 mg/m³ | |
| Risk Characterization Ratio (RCR) | 0.022743 | |
| Guidance to Downstream Users | | |
| For scaling see: http://www.ecetoc.org/tra | | |

| Contributing exposure scenario | |
|---|--|
| Use descriptors covered | PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing). Use domain: industrial |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |

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| Indoor/Outdoor | Indoor |
|---|---|
| Exposure estimate and reference to its source | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 6.8571 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.053197 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 5 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.113714 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/tra | |

| Contributing exposure scenario | |
|--|---|
| | PROC10: Roller application or brushing |
| Use descriptors covered | Use domain: industrial |
| | |
| Operational conditions | |
| | ammonium chloride |
| Concentration of the substance | Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance | 130 Pa |
| during use | 133.1.4 |
| - | 20 °C |
| Process temperature | |
| Duration and Frequency of activity | 480 min 5 days per week |
| | |
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to | its source |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 27.4286 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.21279 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 5 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.113714 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/tra | |

| Contributing exposure scenario | |
|--------------------------------|--|
| Use descriptors covered | PROC13: Treatment of articles by dipping and pouring. Use domain: industrial |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % |

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| Physical state | Solid, medium dustiness |
|---|---|
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to its source | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 13.7143 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.106395 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 1 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.022743 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/tra | |

| Contributing exposure scenario | |
|---|--|
| Use descriptors covered | PROC15: Use a laboratory reagent. Use domain: industrial |
| Operational conditions | |
| | ammonium chloride |
| Concentration of the substance | Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to | its source |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 0.3429 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.00266 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 0.5 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.011371 |
| Guidance to Downstream Users | |

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For scaling see: http://www.ecetoc.org/tra

| Contributing exposure scenario | |
|---|---|
| Use descriptors covered | PROC22: Manufacturing and processing of minerals and/or metals at substantially elevated temperature Use domain: industrial |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % |
| Physical state | Solid, low dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to | its source |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 2.8286 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.021944 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 1 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.022743 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/ | tra |

| Contributing exposure scenario | |
|---|--|
| Use descriptors covered | PROC23: Open processing and transfer operations at substantially elevated temperature Use domain: industrial |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % |
| Physical state | Solid, low dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |

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| Use suitable eye protection. | |
|---|---|
| Exposure estimate and reference to its source | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 1.4143 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.010972 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 1 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.022743 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/t | ra |

| Contributing exposure scenario | | |
|---|--|--|
| Use descriptors covered | PROC25: Other hot work operations with metals Use domain: industrial | |
| Operational conditions | | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % | |
| Physical state | Solid, low dustiness | |
| Vapour pressure of the substance during use | 130 Pa | |
| Process temperature | 20 °C | |
| Duration and Frequency of activity | 480 min 5 days per week | |
| Indoor/Outdoor | Indoor | |
| Risk Management Measures | • | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to its source | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |
| Exposure estimate | 0.2829 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.002194 | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - inhalation, long-term - systemic | |
| Exposure estimate | 5 mg/m³ | |
| Risk Characterization Ratio (RCR) | 0.113714 | |
| Guidance to Downstream Users | | |
| For scaling see: http://www.ecetoc.org | /tra | |

| Contributing exposure scenario | |
|----------------------------------|--|
| Use descriptors covered | PROC26: Handling of solid inorganic substances at ambient temperature Use domain: industrial |
| Operational conditions | |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance | 130 Pa |

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| during use | | |
|---|------------------------|--|
| Process temperature | 20 °C | |
| Risk Management Measures | | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to its source | | |
| Assessment method | Qualitative assessment | |
| Additional good practice advice | | |

There is no corresponding TRA entry concerning PROC 26 and thus, calculation of PROC 26 with TRA is not possible. To approximately map the activities described by PROC 26, PROC 5, 8b and 9 were used. PROC 8b and 9 were used to address the transfer, packaging, unpacking, and weighing while PROC 5 addresses mixing and blending activities

There is no corresponding TRA entry concerning PROC 26 and thus, calculation of PROC 26 with TRA is not possible. To approximately map the activities described by PROC 26, PROC 5, 8b and 9 were used. PROC 8b and 9 were used to address the transfer, packaging, unpacking, and weighing while PROC 5 addresses mixing and blending activities

* * * * * * * * * * * * * * * *

9. Short title of exposure scenario

Use as Cross-linking agent, Production of woodbased materials (panels, bricks, etc), Production of bonded fibers or fiber mats

IS; SU6a; ERC6d; PROC6, PROC14

Control of exposure and risk management measures

| Contributing exposure scenario | |
|--------------------------------|---|
| Use descriptors covered | ERC6d: Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article) As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed. |
| Operational conditions | |

| Contributing exposure scenario | |
|---|--|
| Use descriptors covered | PROC6: Calendering operations Use domain: industrial |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |

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| Indoor/Outdoor | Indoor | |
|---|---|--|
| Risk Management Measures | | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to its source | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |
| Exposure estimate | 27.4286 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.21279 | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - inhalation, long-term - systemic | |
| Exposure estimate | 5 mg/m³ | |
| Risk Characterization Ratio (RCR) | 0.113714 | |
| Guidance to Downstream Users | | |
| For scaling see: http://www.ecetoc.org/tra | | |

| Contributing exposure scenario | |
|---|---|
| Use descriptors covered | PROC14: Tabletting, compression, extrusion, pelletisation, granulation Use domain: industrial |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 3.4286 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.026599 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 1 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.022743 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/t | ra |

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Date / Revised: 31.07.2025 Version: 9.0 Date / Previous version: 11.04.2025 Previous version: 8.0

Product: Ammonium chloride RWS food grade

(ID no. 30042426/SDS_GEN_IE/EN)

Date of print 21.10.2025

Use as a Process chemical, Professional applications, (indoor use)

PW; SU1, SU8; ERC8a; PROC2, PROC3, PROC4, PROC5, PROC8b, PROC9, PROC13, PROC14, PROC15, PROC19, PROC26

Control of exposure and risk management measures

| 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. |
| Operational conditions | |

| 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 Use domain: professional |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to | its source |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 1.3714 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.010639 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| - | Worker - inhalation, long-term - systemic |
| Exposure estimate | 1 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.022743 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/ | ′tra |

| 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 |

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Product: Ammonium chloride RWS food grade

(ID no. 30042426/SDS_GEN_IE/EN)

| | containment condition | |
|---|---|--|
| | Use domain: professional | |
| Operational conditions | | |
| | ammonium chloride | |
| Concentration of the substance | Content: >= 0 % - <= 100 % | |
| Physical state | Solid, medium dustiness | |
| Vapour pressure of the substance during use | 130 Pa | |
| Process temperature | 20 °C | |
| Duration and Frequency of activity | 480 min 5 days per week | |
| Indoor/Outdoor | Indoor | |
| Risk Management Measures | | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to | its source | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |
| Exposure estimate | 0.6857 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.00532 | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - inhalation, long-term - systemic | |
| Exposure estimate | 1 mg/m³ | |
| Risk Characterization Ratio (RCR) | 0.022743 | |
| Guidance to Downstream Users | | |
| For scaling see: http://www.ecetoc.org | y/tra | |

| Contributing exposure scenario | |
|---|---|
| Use descriptors covered | PROC4: Chemical production where opportunity for exposure arises Use domain: professional |
| Operational conditions | • |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to its source | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |

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Product: Ammonium chloride RWS food grade

(ID no. 30042426/SDS_GEN_IE/EN)

| Exposure estimate | 6.8571 mg/kg bw/day |
|--|---|
| Risk Characterization Ratio (RCR) | 0.053197 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| _ | Worker - inhalation, long-term - systemic |
| Exposure estimate | 5 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.113714 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/tra | |

| Contributing exposure scenario | | |
|---|--|--|
| | PROC5: Mixing or blending in batch processes | |
| Use descriptors covered | Use domain: professional | |
| On a watio male a a malitic ma | | |
| Operational conditions | | |
| | ammonium chloride | |
| Concentration of the substance | Content: >= 0 % - <= 100 % | |
| Physical state | Solid, medium dustiness | |
| Vapour pressure of the substance | 130 Pa | |
| during use | | |
| Process temperature | 20 °C | |
| Duration and Frequency of activity | 480 min 5 days per week | |
| Indoor/Outdoor | Indoor | |
| Risk Management Measures | | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to its source | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |
| Exposure estimate | 13.7143 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.106395 | |
| | EAGY/TDA AG EGETGG TDA GG WI | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - inhalation, long-term - systemic | |
| Exposure estimate | Worker - inhalation, long-term - systemic 5 mg/m³ | |
| | Worker - inhalation, long-term - systemic | |
| Exposure estimate | Worker - inhalation, long-term - systemic 5 mg/m³ 0.113714 | |

| Contributing exposure scenario | | |
|----------------------------------|--|--|
| Use descriptors covered | PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities Use domain: professional | |
| Operational conditions | | |
| | ammonium chloride | |
| Concentration of the substance | Content: >= 0 % - <= 100 % | |
| Physical state | Solid, medium dustiness | |
| Vapour pressure of the substance | 130 Pa | |
| during use | | |

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Product: Ammonium chloride RWS food grade

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| Process temperature | 20 °C | |
|---|---|--|
| Duration and Frequency of activity | 480 min 5 days per week | |
| Indoor/Outdoor | Indoor | |
| Risk Management Measures | | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to its source | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |
| Exposure estimate | 13.7143 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.106395 | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - inhalation, long-term - systemic | |
| Exposure estimate | 5 mg/m³ | |
| Risk Characterization Ratio (RCR) | 0.113714 | |
| Guidance to Downstream Users | | |
| For scaling see: http://www.ecetoc.org/tra | | |

| Contributing exposure scenario | |
|---|--|
| Use descriptors covered | PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing). Use domain: professional |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to | its source |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 6.8571 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.053197 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 5 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.113714 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/ | tra |

Contributing exposure scenario

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| Use descriptors covered | PROC13: Treatment of articles by dipping and pouring. Use domain: professional | |
|---|--|--|
| Operational conditions | | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % | |
| Physical state | Solid, medium dustiness | |
| Vapour pressure of the substance during use | 130 Pa | |
| Process temperature | 20 °C | |
| Duration and Frequency of activity | 480 min 5 days per week | |
| Indoor/Outdoor | Indoor | |
| Risk Management Measures | | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to its source | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |
| Exposure estimate | 13.7143 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.106395 | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - inhalation, long-term - systemic | |
| Exposure estimate | 5 mg/m³ | |
| Risk Characterization Ratio (RCR) | 0.113714 | |
| Guidance to Downstream Users | | |
| For scaling see: http://www.ecetoc.org | /tra | |

| Contributing exposure scenario | | |
|---|---|--|
| Use descriptors covered | PROC14: Tabletting, compression, extrusion, pelletisation, granulation Use domain: professional | |
| Operational conditions | | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % | |
| Physical state | Solid, medium dustiness | |
| Vapour pressure of the substance during use | 130 Pa | |
| Process temperature | 20 °C | |
| Duration and Frequency of activity | 480 min 5 days per week | |
| Indoor/Outdoor | Indoor | |
| Risk Management Measures | | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to its source | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |

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| Exposure estimate | 3.4286 mg/kg bw/day |
|---|---|
| Risk Characterization Ratio (RCR) | 0.026599 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 5 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.113714 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/ | tra |

| Contributing exposure scenario | |
|--|---|
| | PROC15: Use a laboratory reagent. |
| Use descriptors covered | Use domain: professional |
| Operational conditions | |
| Operational conditions | |
| | ammonium chloride |
| Concentration of the substance | Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance | 130 Pa |
| during use | |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to | ts source |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 0.3429 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.00266 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 0.5 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.011371 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/t | ra |

| Contributing exposure scenario | |
|----------------------------------|---|
| Use descriptors covered | PROC19: Manual activities involving hand contact Use domain: professional |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance | 130 Pa |
| during use | |
| Process temperature | 20 °C |

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Product: Ammonium chloride RWS food grade

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| Duration and Frequency of activity | 480 min 5 days per week | |
|---|---|--|
| Indoor/Outdoor | Indoor | |
| Risk Management Measures | | |
| Use suitable chemically resistant gloves. | Effectiveness: 80 % | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to its source | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |
| Exposure estimate | 28.2857 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.219439 | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - inhalation, long-term - systemic | |
| Exposure estimate | 5 mg/m³ | |
| Risk Characterization Ratio (RCR) | 0.113714 | |
| Guidance to Downstream Users | | |
| For scaling see: http://www.ecetoc.org/tra | | |

| Contributing exposure scenario | |
|---|--|
| Use descriptors covered | PROC26: Handling of solid inorganic substances at ambient temperature Use domain: professional |
| Operational conditions | |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to its source | |
| Assessment method | Qualitative assessment |
| Additional good practice advice | |

There is no corresponding TRA entry concerning PROC 26 and thus, calculation of PROC 26 with TRA is not possible. To approximately map the activities described by PROC 26, PROC 5, 8b and 9 were used. PROC 8b and 9 were used to address the transfer, packaging, unpacking, and weighing while PROC 5 addresses mixing and blending activities

There is no corresponding TRA entry concerning PROC 26 and thus, calculation of PROC 26 with TRA is not possible. To approximately map the activities described by PROC 26, PROC 5, 8b and 9 were used. PROC 8b and 9 were used to address the transfer, packaging, unpacking, and weighing while PROC 5 addresses mixing and blending activities

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11. Short title of exposure scenario

Use as Reactive process agent, Use in/as Fertilizers, Use in Metallurgy, Use in Metal surface treatment, Use in Textile finishing, Use in Biotechnology, Professional applications, (indoor use)

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PW; SU5, SU14, SU15; ERC8b; PROC2, PROC3, PROC4, PROC5, PROC6, PROC8a, PROC8b, PROC9, PROC11, PROC13, PROC14, PROC15, PROC19, PROC23, PROC26

Control of exposure and risk management measures

| 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. |
| Operational conditions | · |

| 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 Use domain: professional |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 1.3714 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.010639 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 1 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.022743 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org | /tra |

| 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 |

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| | Use domain: professional |
|---|---|
| Operational conditions | |
| | ammonium chloride |
| Concentration of the substance | Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to | its source |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 0.6857 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.00532 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 1 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.022743 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org | /tra |

| Contributing exposure secretic | | |
|---|---|--|
| Use descriptors covered | PROC4: Chemical production where opportunity for exposure arises Use domain: professional | |
| Operational conditions | | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % | |
| Physical state | Solid, medium dustiness | |
| Vapour pressure of the substance during use | 130 Pa | |
| Process temperature | 20 °C | |
| Duration and Frequency of activity | 480 min 5 days per week | |
| Indoor/Outdoor | Indoor | |
| Risk Management Measures | | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to its source | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |
| Exposure estimate | 6.8571 mg/kg bw/day | |

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Product: Ammonium chloride RWS food grade

(ID no. 30042426/SDS_GEN_IE/EN)

| Risk Characterization Ratio (RCR) | 0.053197 |
|--|---|
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 5 mg/m ³ |
| Risk Characterization Ratio (RCR) | 0.113714 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/tra | |

| Contributing exposure scenario | | |
|---|--|--|
| | PROC5: Mixing or blending in batch processes | |
| Use descriptors covered | Use domain: professional | |
| Operational conditions | | |
| | ammonium chloride | |
| Concentration of the substance | Content: >= 0 % - <= 100 % | |
| Physical state | Solid, medium dustiness | |
| Vapour pressure of the substance during use | 130 Pa | |
| Process temperature | 20 °C | |
| Duration and Frequency of activity | 480 min 5 days per week | |
| Indoor/Outdoor | Indoor | |
| Risk Management Measures | | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to its source | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |
| Exposure estimate | 13.7143 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.106395 | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - inhalation, long-term - systemic | |
| Exposure estimate | 5 mg/m³ | |
| Risk Characterization Ratio (RCR) | 0.113714 | |
| Guidance to Downstream Users | | |
| For scaling see: http://www.ecetoc.org/ | tra | |

| Contributing exposure scenario | |
|----------------------------------|-------------------------------|
| | PROC6: Calendering operations |
| Use descriptors covered | Use domain: professional |
| Operational conditions | |
| | ammonium chloride |
| Concentration of the substance | Content: >= 0 % - <= 100 % |
| | |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance | 130 Pa |
| during use | |
| Process temperature | 20 °C |
| Process temperature | |

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| Duration and Frequency of activity | 480 min 5 days per week | |
|---|---|--|
| Indoor/Outdoor | Indoor | |
| Risk Management Measures | | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to its source | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |
| Exposure estimate | 27.4286 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.21279 | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - inhalation, long-term - systemic | |
| Exposure estimate | 5 mg/m³ | |
| Risk Characterization Ratio (RCR) | 0.113714 | |
| Guidance to Downstream Users | | |
| For scaling see: http://www.ecetoc.org/tra | | |

| Contributing exposure scenario | | |
|---|--|--|
| Contributing exposure scenario | DDCCC Transferrite Later and the Children | |
| | PROC8a: Transfer of substance or mixture (charging and | |
| Use descriptors covered | discharging) at non-dedicated facilities | |
| | Use domain: professional | |
| Operational conditions | <u>I</u> | |
| | ammonium chloride | |
| Concentration of the substance | Content: >= 0 % - <= 100 % | |
| Physical state | Solid, medium dustiness | |
| Vapour pressure of the substance during use | 130 Pa | |
| Process temperature | 20 °C | |
| Duration and Frequency of activity | 480 min 5 days per week | |
| Indoor/Outdoor | Indoor | |
| Risk Management Measures | | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to its source | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |
| Exposure estimate | 13.7143 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.106395 | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - inhalation, long-term - systemic | |
| Exposure estimate | 10 mg/m ³ | |
| Risk Characterization Ratio (RCR) | 0.227428 | |
| Guidance to Downstream Users | | |
| For scaling see: http://www.ecetoc.org/t | ra | |

| Contributing exposure scenario | |
|--------------------------------|---|
| Use descriptors covered | PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities |

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Product: Ammonium chloride RWS food grade

(ID no. 30042426/SDS_GEN_IE/EN)

| | Use domain: professional |
|---|---|
| Operational conditions | |
| | ammonium chloride |
| Concentration of the substance | Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to | its source |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 13.7143 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.106395 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 5 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.113714 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/ | tra |

| Contributing exposure scenario | |
|---|--|
| Use descriptors covered | PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing). Use domain: professional |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to its source | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 6.8571 mg/kg bw/day |

Date / Revised: 31.07.2025 Version: 9.0
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Product: Ammonium chloride RWS food grade

(ID no. 30042426/SDS_GEN_IE/EN)

| Risk Characterization Ratio (RCR) | 0.053197 |
|--|---|
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 5 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.113714 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/tra | |

| Contributing exposure scenario | |
|--|---|
| PROC11: Non industrial spraying | |
| Use descriptors covered | Use domain: professional |
| • | · |
| Operational conditions | |
| | ammonium chloride |
| Concentration of the substance | Content: >= 0 % - < 1 % |
| Physical state | liquid |
| Vapour pressure of the substance | 130 Pa |
| during use | 10014 |
| <u> </u> | 20 °C |
| Process temperature | |
| Duration and Frequency of activity | 480 min 5 days per week |
| , , , | |
| Indoor/Outdoor | Indoor |
| | Any sized room |
| Application rate | > 3 l/min |
| Risk Management Measures | |
| Ensure that the task is carried out only | |
| downward. | |
| Surface spraying with no or low | |
| compressed air use. | |
| Ensure doors and windows are | |
| opened (general ventilation). | |
| Use suitable eye protection. | |
| Exposure estimate and reference to it | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 10.7143 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.083121 |
| Assessment method | EASY TRA v4.2, Advanced REACH Tool v1.5 |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 12 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.272913 |
| 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 | |

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Product: Ammonium chloride RWS food grade

(ID no. 30042426/SDS_GEN_IE/EN)

| Concentration of the substance Physical state Physical state Vapour pressure of the substance during use Process temperature Duration and Frequency of activity Indoor/Outdoor Indoor Application rate Application rate Ensure that the task is carried out only downward. Ensure doors and windows are opened (general ventilation). Ensure that the task is being carried out outside the breathing zone of a worker (distance head-product greater than 1m). Ensure that the tworker is in a personal enclosure Use suitable eye protection. Exposure estimate and reference to its source Assessment method EASY TRA v4.2, ECETOC TRA v3.0, Worker Worker - dermal, long-term - systemic Exposure estimate 10.7143 mg/kg bw/day Risk Characterization Ratio (RCR) Norker - inhalation, long-term - systemic Exposure estimate 21 mg/m³ Risk Characterization Ratio (RCR) O.477598 Guidance to Downstream Users For scaling see: http://www.ecetoc.org/tra | | ammonium chloride |
|--|--|-------------------------|
| Vapour pressure of the substance during use Process temperature Duration and Frequency of activity Indoor/Outdoor Any sized room Application rate > 3 l/min Risk Management Measures Ensure that the task is carried out only downward. Ensure doors and windows are opened (general ventilation). Ensure that the task is being carried out outside the breathing zone of a worker (distance head-product greater than 1m). Ensure that the worker is in a personal enclosure Use suitable eye protection. Exposure estimate and reference to its source Assessment method EASY TRA v4.2, ECETOC TRA v3.0, Worker Worker - dermal, long-term - systemic Exposure estimate 10.7143 mg/kg bw/day Risk Characterization Ratio (RCR) O.083121 Assessment method Exposure estimate 21 mg/m³ Risk Characterization Ratio (RCR) O.477598 Guidance to Downstream Users | Concentration of the substance | Content: >= 0 % - < 1 % |
| Vapour pressure of the substance during use Process temperature Duration and Frequency of activity Indoor/Outdoor Any sized room Application rate > 3 l/min Risk Management Measures Ensure that the task is carried out only downward. Ensure doors and windows are opened (general ventilation). Ensure that the task is being carried out outside the breathing zone of a worker (distance head-product greater than 1m). Ensure that the worker is in a personal enclosure Use suitable eye protection. Exposure estimate and reference to its source Assessment method EASY TRA v4.2, ECETOC TRA v3.0, Worker Worker - dermal, long-term - systemic Exposure estimate 10.7143 mg/kg bw/day Risk Characterization Ratio (RCR) O.083121 Assessment method Exposure estimate 21 mg/m³ Risk Characterization Ratio (RCR) O.477598 Guidance to Downstream Users | Dhariant state | Parit d |
| during use Process temperature Duration and Frequency of activity Indoor/Outdoor Any sized room Application rate Application rate Assessment method Exposure estimate Assessment method Exposure estimate Indoor Any sized room Any sized ro | | |
| Duration and Frequency of activity Indoor/Outdoor Any sized room Application rate Any sized room Application rate Fisk Management Measures Ensure that the task is carried out only downward. Ensure doors and windows are opened (general ventilation). Ensure that the task is being carried out outside the breathing zone of a worker (distance head-product greater than 1m). Ensure that the worker is in a personal enclosure Use suitable eye protection. Exposure estimate and reference to its source Assessment method Exposure estimate 10.7143 mg/kg bw/day Risk Characterization Ratio (RCR) Assessment method Exposure estimate 21 mg/m³ Risk Characterization Ratio (RCR) Guidance to Downstream Users | | |
| Indoor/Outdoor Indoor Any sized room Application rate > 3 l/min Risk Management Measures Ensure that the task is carried out only downward. Ensure doors and windows are opened (general ventilation). Ensure that the task is being carried out outside the breathing zone of a worker (distance head-product greater than 1m). Ensure that the worker is in a personal enclosure Use suitable eye protection. Exposure estimate and reference to its source Assessment method EASY TRA v4.2, ECETOC TRA v3.0, Worker Worker - dermal, long-term - systemic Exposure estimate 10.7143 mg/kg bw/day Risk Characterization Ratio (RCR) 0.083121 Assessment method EASY TRA v4.2, Advanced REACH Tool v1.5 Worker - inhalation, long-term - systemic Exposure estimate 21 mg/m³ Risk Characterization Ratio (RCR) 0.477598 Guidance to Downstream Users | Process temperature | 20 °C |
| Application rate > 3 l/min Risk Management Measures Ensure that the task is carried out only downward. Ensure doors and windows are opened (general ventilation). Ensure that the task is being carried out outside the breathing zone of a worker (distance head-product greater than 1m). Ensure that the worker is in a personal enclosure Use suitable eye protection. Exposure estimate and reference to its source Assessment method EASY TRA v4.2, ECETOC TRA v3.0, Worker Worker - dermal, long-term - systemic Exposure estimate 10.7143 mg/kg bw/day Risk Characterization Ratio (RCR) 0.083121 Assessment method EASY TRA v4.2, Advanced REACH Tool v1.5 Worker - inhalation, long-term - systemic Exposure estimate 21 mg/m³ Risk Characterization Ratio (RCR) 0.477598 Guidance to Downstream Users | Duration and Frequency of activity | 480 min 5 days per week |
| Application rate > 3 l/min Risk Management Measures Ensure that the task is carried out only downward. Ensure doors and windows are opened (general ventilation). Ensure that the task is being carried out outside the breathing zone of a worker (distance head-product greater than 1m). Ensure that the worker is in a personal enclosure Use suitable eye protection. Exposure estimate and reference to its source Assessment method EASY TRA v4.2, ECETOC TRA v3.0, Worker Worker - dermal, long-term - systemic Exposure estimate 10.7143 mg/kg bw/day Risk Characterization Ratio (RCR) 0.083121 Assessment method EASY TRA v4.2, Advanced REACH Tool v1.5 Worker - inhalation, long-term - systemic Exposure estimate 21 mg/m³ Risk Characterization Ratio (RCR) 0.477598 Guidance to Downstream Users | Indoor/Outdoor | Indoor |
| Risk Management Measures Ensure that the task is carried out only downward. Ensure doors and windows are opened (general ventilation). Ensure that the task is being carried out outside the breathing zone of a worker (distance head-product greater than 1m). Ensure that the worker is in a personal enclosure Use suitable eye protection. Exposure estimate and reference to its source Assessment method EASY TRA v4.2, ECETOC TRA v3.0, Worker Worker - dermal, long-term - systemic Exposure estimate 10.7143 mg/kg bw/day Risk Characterization Ratio (RCR) 0.083121 Assessment method EASY TRA v4.2, Advanced REACH Tool v1.5 Worker - inhalation, long-term - systemic Exposure estimate 21 mg/m³ Risk Characterization Ratio (RCR) 0.477598 Guidance to Downstream Users | | Any sized room |
| Ensure that the task is carried out only downward. Ensure doors and windows are opened (general ventilation). Ensure that the task is being carried out outside the breathing zone of a worker (distance head-product greater than 1m). Ensure that the worker is in a personal enclosure Use suitable eye protection. Exposure estimate and reference to its source Assessment method EASY TRA v4.2, ECETOC TRA v3.0, Worker Worker - dermal, long-term - systemic Exposure estimate 10.7143 mg/kg bw/day Risk Characterization Ratio (RCR) 0.083121 Assessment method EASY TRA v4.2, Advanced REACH Tool v1.5 Worker - inhalation, long-term - systemic Exposure estimate 21 mg/m³ Risk Characterization Ratio (RCR) 0.477598 Guidance to Downstream Users | | > 3 l/min |
| downward. Ensure doors and windows are opened (general ventilation). Ensure that the task is being carried out outside the breathing zone of a worker (distance head-product greater than 1m). Ensure that the worker is in a personal enclosure Use suitable eye protection. Exposure estimate and reference to its source Assessment method EASY TRA v4.2, ECETOC TRA v3.0, Worker Worker - dermal, long-term - systemic Exposure estimate 10.7143 mg/kg bw/day Risk Characterization Ratio (RCR) Assessment method EASY TRA v4.2, Advanced REACH Tool v1.5 Worker - inhalation, long-term - systemic Exposure estimate 21 mg/m³ Risk Characterization Ratio (RCR) 0.477598 Guidance to Downstream Users | Risk Management Measures | |
| opened (general ventilation). Ensure that the task is being carried out outside the breathing zone of a worker (distance head-product greater than 1m). Ensure that the worker is in a personal enclosure Use suitable eye protection. Exposure estimate and reference to its source Assessment method EASY TRA v4.2, ECETOC TRA v3.0, Worker Worker - dermal, long-term - systemic Exposure estimate 10.7143 mg/kg bw/day Risk Characterization Ratio (RCR) Assessment method EASY TRA v4.2, Advanced REACH Tool v1.5 Worker - inhalation, long-term - systemic Exposure estimate 21 mg/m³ Risk Characterization Ratio (RCR) O.477598 Guidance to Downstream Users | | |
| Ensure that the task is being carried out outside the breathing zone of a worker (distance head-product greater than 1m). Ensure that the worker is in a personal enclosure Use suitable eye protection. Exposure estimate and reference to its source Assessment method EASY TRA v4.2, ECETOC TRA v3.0, Worker Worker - dermal, long-term - systemic Exposure estimate 10.7143 mg/kg bw/day Risk Characterization Ratio (RCR) 0.083121 Assessment method EASY TRA v4.2, Advanced REACH Tool v1.5 Worker - inhalation, long-term - systemic Exposure estimate 21 mg/m³ Risk Characterization Ratio (RCR) 0.477598 Guidance to Downstream Users | Ensure doors and windows are | |
| out outside the breathing zone of a worker (distance head-product greater than 1m). Ensure that the worker is in a personal enclosure Use suitable eye protection. Exposure estimate and reference to its source Assessment method EASY TRA v4.2, ECETOC TRA v3.0, Worker Worker - dermal, long-term - systemic Exposure estimate 10.7143 mg/kg bw/day Risk Characterization Ratio (RCR) Assessment method EASY TRA v4.2, Advanced REACH Tool v1.5 Worker - inhalation, long-term - systemic Exposure estimate 21 mg/m³ Risk Characterization Ratio (RCR) O.477598 Guidance to Downstream Users | opened (general ventilation). | |
| worker (distance head-product greater than 1m). Ensure that the worker is in a personal enclosure Use suitable eye protection. Exposure estimate and reference to its source Assessment method EASY TRA v4.2, ECETOC TRA v3.0, Worker Worker - dermal, long-term - systemic Exposure estimate 10.7143 mg/kg bw/day Risk Characterization Ratio (RCR) Assessment method EASY TRA v4.2, Advanced REACH Tool v1.5 Worker - inhalation, long-term - systemic Exposure estimate 21 mg/m³ Risk Characterization Ratio (RCR) 0.477598 Guidance to Downstream Users | Ensure that the task is being carried | |
| than 1m). Ensure that the worker is in a personal enclosure Use suitable eye protection. Exposure estimate and reference to its source Assessment method EASY TRA v4.2, ECETOC TRA v3.0, Worker Worker - dermal, long-term - systemic Exposure estimate 10.7143 mg/kg bw/day Risk Characterization Ratio (RCR) Assessment method EASY TRA v4.2, Advanced REACH Tool v1.5 Worker - inhalation, long-term - systemic Exposure estimate 21 mg/m³ Risk Characterization Ratio (RCR) 0.477598 Guidance to Downstream Users | | |
| Ensure that the worker is in a personal enclosure Use suitable eye protection. Exposure estimate and reference to its source Assessment method EASY TRA v4.2, ECETOC TRA v3.0, Worker Worker - dermal, long-term - systemic Exposure estimate 10.7143 mg/kg bw/day Risk Characterization Ratio (RCR) Assessment method EASY TRA v4.2, Advanced REACH Tool v1.5 Worker - inhalation, long-term - systemic Exposure estimate 21 mg/m³ Risk Characterization Ratio (RCR) 0.477598 Guidance to Downstream Users | | |
| personal enclosure Use suitable eye protection. Exposure estimate and reference to its source Assessment method EASY TRA v4.2, ECETOC TRA v3.0, Worker Worker - dermal, long-term - systemic Exposure estimate 10.7143 mg/kg bw/day Risk Characterization Ratio (RCR) Assessment method EASY TRA v4.2, Advanced REACH Tool v1.5 Worker - inhalation, long-term - systemic Exposure estimate 21 mg/m³ Risk Characterization Ratio (RCR) O.477598 Guidance to Downstream Users | | |
| Use suitable eye protection. Exposure estimate and reference to its source Assessment method EASY TRA v4.2, ECETOC TRA v3.0, Worker Worker - dermal, long-term - systemic Exposure estimate 10.7143 mg/kg bw/day Risk Characterization Ratio (RCR) 0.083121 Assessment method EASY TRA v4.2, Advanced REACH Tool v1.5 Worker - inhalation, long-term - systemic Exposure estimate 21 mg/m³ Risk Characterization Ratio (RCR) 0.477598 Guidance to Downstream Users | | |
| Exposure estimate and reference to its source Assessment method EASY TRA v4.2, ECETOC TRA v3.0, Worker Worker - dermal, long-term - systemic Exposure estimate 10.7143 mg/kg bw/day Risk Characterization Ratio (RCR) Assessment method EASY TRA v4.2, Advanced REACH Tool v1.5 Worker - inhalation, long-term - systemic Exposure estimate 21 mg/m³ Risk Characterization Ratio (RCR) O.477598 Guidance to Downstream Users | | |
| Assessment method EASY TRA v4.2, ECETOC TRA v3.0, Worker Worker - dermal, long-term - systemic 10.7143 mg/kg bw/day Risk Characterization Ratio (RCR) Assessment method EASY TRA v4.2, Advanced REACH Tool v1.5 Worker - inhalation, long-term - systemic Exposure estimate 21 mg/m³ Risk Characterization Ratio (RCR) O.477598 Guidance to Downstream Users | | |
| Worker - dermal, long-term - systemic Exposure estimate 10.7143 mg/kg bw/day Risk Characterization Ratio (RCR) 0.083121 Assessment method EASY TRA v4.2, Advanced REACH Tool v1.5 Worker - inhalation, long-term - systemic Exposure estimate 21 mg/m³ Risk Characterization Ratio (RCR) 0.477598 Guidance to Downstream Users | Exposure estimate and reference to it | |
| Exposure estimate 10.7143 mg/kg bw/day Risk Characterization Ratio (RCR) 0.083121 Assessment method EASY TRA v4.2, Advanced REACH Tool v1.5 Worker - inhalation, long-term - systemic Exposure estimate 21 mg/m³ Risk Characterization Ratio (RCR) 0.477598 Guidance to Downstream Users | Assessment method | |
| Risk Characterization Ratio (RCR) Assessment method EASY TRA v4.2, Advanced REACH Tool v1.5 Worker - inhalation, long-term - systemic Exposure estimate 21 mg/m³ Risk Characterization Ratio (RCR) O.477598 Guidance to Downstream Users | | |
| Assessment method EASY TRA v4.2, Advanced REACH Tool v1.5 Worker - inhalation, long-term - systemic Exposure estimate 21 mg/m³ Risk Characterization Ratio (RCR) Guidance to Downstream Users | | 10.7143 mg/kg bw/day |
| Worker - inhalation, long-term - systemic Exposure estimate 21 mg/m³ Risk Characterization Ratio (RCR) 0.477598 Guidance to Downstream Users | Risk Characterization Ratio (RCR) | |
| Exposure estimate 21 mg/m³ Risk Characterization Ratio (RCR) 0.477598 Guidance to Downstream Users | Assessment method | , , |
| Risk Characterization Ratio (RCR) 0.477598 Guidance to Downstream Users | | |
| Guidance to Downstream Users | | |
| | \ / | 0.477598 |
| For scaling see: http://www.ecetoc.org/tra | Guidance to Downstream Users | |
| | For scaling see: http://www.ecetoc.org/t | ra |

| Contributing exposure scenario | |
|---|--|
| Use descriptors covered | PROC13: Treatment of articles by dipping and pouring. Use domain: professional |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |

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BASF Safety data sheet according to Regulation (EC) No. 1907/2006 as amended from time to time.

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Product: Ammonium chloride RWS food grade

(ID no. 30042426/SDS_GEN_IE/EN)

| Indoor/Outdoor | Indoor | |
|---|---|--|
| Risk Management Measures | | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to its source | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |
| Exposure estimate | 13.7143 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.106395 | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - inhalation, long-term - systemic | |
| Exposure estimate | 5 mg/m³ | |
| Risk Characterization Ratio (RCR) | 0.113714 | |
| Guidance to Downstream Users | | |
| For scaling see: http://www.ecetoc.org/tra | | |

| Contributing exposure scenario | |
|---|---|
| Use descriptors covered | PROC14: Tabletting, compression, extrusion, pelletisation, granulation Use domain: professional |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 3.4286 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.026599 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 5 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.113714 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/ | tra |

| Contributing exposure scenario | |
|--------------------------------|--|
| Use descriptors covered | PROC15: Use a laboratory reagent. Use domain: professional |

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Product: Ammonium chloride RWS food grade

(ID no. 30042426/SDS_GEN_IE/EN)

| Operational conditions | |
|---|---|
| | ammonium chloride |
| Concentration of the substance | Content: >= 0 % - <= 100 % |
| | |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance | 130 Pa |
| during use | |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to | its source |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 0.3429 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.00266 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 0.5 mg/m ³ |
| Risk Characterization Ratio (RCR) | 0.011371 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/ | tra |

| Camtuibuting average constraint | |
|---|--|
| Contributing exposure scenario | |
| | PROC19: Manual activities involving hand contact |
| Use descriptors covered | Use domain: professional |
| - | · |
| Operational conditions | |
| | ammonium chloride |
| Concentration of the substance | Content: >= 0 % - <= 100 % |
| | |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance | 130 Pa |
| during use | |
| _ | 20 °C |
| Process temperature | |
| | 480 min 5 days per week |
| Duration and Frequency of activity | |
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |
| Use suitable chemically resistant | Effective recess 00 0/ |
| gloves. | Effectiveness: 80 % |
| Use suitable eye protection. | |
| Exposure estimate and reference to its source | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 28.2857 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.219439 |

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Product: Ammonium chloride RWS food grade

(ID no. 30042426/SDS_GEN_IE/EN)

| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
|--|---|
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 5 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.113714 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org | g/tra |

| Contributing exposure scenario | | |
|---|--|--|
| Use descriptors covered | PROC23: Open processing and transfer operations at substantially elevated temperature Use domain: professional | |
| Operational conditions | | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % | |
| Physical state | Solid, low dustiness | |
| Vapour pressure of the substance during use | 130 Pa | |
| Process temperature | 20 °C | |
| Duration and Frequency of activity | 480 min 5 days per week | |
| Indoor/Outdoor | Indoor | |
| Risk Management Measures | | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to its source | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |
| Exposure estimate | 1.4143 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.010972 | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - inhalation, long-term - systemic | |
| Exposure estimate | 3 mg/m³ | |
| Risk Characterization Ratio (RCR) | 0.068228 | |
| Guidance to Downstream Users | | |
| For scaling see: http://www.ecetoc.org | /tra | |

| Contributing exposure scenario | | |
|---|--|--|
| Use descriptors covered | PROC26: Handling of solid inorganic substances at ambient temperature Use domain: professional | |
| Operational conditions | | |
| Physical state | Solid, medium dustiness | |
| Vapour pressure of the substance during use | 130 Pa | |
| Process temperature | 20 °C | |
| Risk Management Measures | | |
| Use suitable eye protection. | | |

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Product: Ammonium chloride RWS food grade

(ID no. 30042426/SDS_GEN_IE/EN)

Date of print 21.10.2025

| Exposure estimate and reference to its source | | |
|--|------------------------|--|
| Assessment method | Qualitative assessment | |
| Additional good practice advice | | |
| There is no corresponding TRA entry concerning PROC 26 and thus, calculation of PROC 26 with | | |

There is no corresponding TRA entry concerning PROC 26 and thus, calculation of PROC 26 with TRA is not possible. To approximately map the activities described by PROC 26, PROC 5, 8b and 9 were used. PROC 8b and 9 were used to address the transfer, packaging, unpacking, and weighing while PROC 5 addresses mixing and blending activities

There is no corresponding TRA entry concerning PROC 26 and thus, calculation of PROC 26 with TRA is not possible. To approximately map the activities described by PROC 26, PROC 5, 8b and 9 were used. PROC 8b and 9 were used to address the transfer, packaging, unpacking, and weighing while PROC 5 addresses mixing and blending activities

* * * * * * * * * * * * * * * *

12. Short title of exposure scenario

Use as a Process chemical, Professional applications, (outdoor use) PW; SU1, SU8, SU10; ERC8d; PROC2, PROC3, PROC4, PROC5, PROC8b, PROC9, PROC13, PROC14, PROC15, PROC19, PROC26

Control of exposure and risk management measures

| 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. |
| Operational conditions | · |

| 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 Use domain: professional |
| Operational conditions | · |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Outdoor |
| Risk Management Measures | • |
| Use suitable eye protection. | |

Date / Revised: 31.07.2025 Version: 9.0
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Product: Ammonium chloride RWS food grade

(ID no. 30042426/SDS_GEN_IE/EN)

| Exposure estimate and reference to its source | |
|---|---|
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 1.3714 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.010639 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 0.7 mg/m ³ |
| Risk Characterization Ratio (RCR) | 0.01592 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/tra | |

| 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 Use domain: professional | |
| Operational conditions | | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % | |
| Physical state | Solid, medium dustiness | |
| Vapour pressure of the substance during use | 130 Pa | |
| Process temperature | 20 °C | |
| Duration and Frequency of activity | 480 min 5 days per week | |
| Indoor/Outdoor | Outdoor | |
| Risk Management Measures | | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to its source | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |
| Exposure estimate | 0.6857 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.00532 | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - inhalation, long-term - systemic | |
| Exposure estimate | 0.7 mg/m ³ | |
| Risk Characterization Ratio (RCR) | 0.01592 | |
| Guidance to Downstream Users | | |
| For scaling see: http://www.ecetoc.org/ | tra | |

| Contributing exposure scenario | |
|--------------------------------|---|
| Use descriptors covered | PROC4: Chemical production where opportunity for exposure arises Use domain: professional |
| Operational conditions | |

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Product: Ammonium chloride RWS food grade

(ID no. 30042426/SDS_GEN_IE/EN)

| | ammonium chloride |
|---|---|
| Concentration of the substance | Content: >= 0 % - <= 100 % |
| | |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Outdoor |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to | its source |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 6.8571 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.053197 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 3.5 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.0796 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/t | tra |

| Contributing exposure scenario | | |
|---|---|--|
| Use descriptors covered | PROC5: Mixing or blending in batch processes Use domain: professional | |
| Operational conditions | | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % | |
| Physical state | Solid, medium dustiness | |
| Vapour pressure of the substance during use | 130 Pa | |
| Process temperature | 20 °C | |
| Duration and Frequency of activity | 480 min 5 days per week | |
| Indoor/Outdoor | Outdoor | |
| Risk Management Measures | | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to its source | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |
| Exposure estimate | 13.7143 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.106395 | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - inhalation, long-term - systemic | |
| Exposure estimate | 3.5 mg/m ³ | |

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Product: Ammonium chloride RWS food grade

(ID no. 30042426/SDS_GEN_IE/EN)

| Risk Characterization Ratio (RCR) | 0.0796 |
|---|--------|
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/ | 'tra |

| Contributing expecuse cooperie | | |
|---|--|--|
| Contributing exposure scenario | | |
| Use descriptors covered | PROC8b: Transfer of substance or mixture (charging and | |
| | discharging) at dedicated facilities | |
| | Use domain: professional | |
| Operational conditions | <u> </u> | |
| | ammonium chloride | |
| Concentration of the substance | Content: >= 0 % - <= 100 % | |
| Physical state | Solid, medium dustiness | |
| Vapour pressure of the substance during use | 130 Pa | |
| Process temperature | 20 °C | |
| Duration and Frequency of activity | 480 min 5 days per week | |
| Indoor/Outdoor | Outdoor | |
| Risk Management Measures | | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to its source | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |
| Exposure estimate | 13.7143 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.106395 | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - inhalation, long-term - systemic | |
| Exposure estimate | 3.5 mg/m ³ | |
| Risk Characterization Ratio (RCR) | 0.0796 | |
| Guidance to Downstream Users | | |
| For scaling see: http://www.ecetoc.org | /tra | |

| Contributing exposure scenario | |
|---|--|
| Use descriptors covered | PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing). Use domain: professional |
| Operational conditions | |
| | ammonium chloride |
| Concentration of the substance | Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |

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Product: Ammonium chloride RWS food grade

(ID no. 30042426/SDS_GEN_IE/EN)

| Indoor/Outdoor | Outdoor |
|---|---|
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to its source | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 6.8571 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.053197 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 3.5 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.0796 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/tra | |

| Contributing exposure scenario | | | |
|---|--|--|--|
| Use descriptors covered | PROC13: Treatment of articles by dipping and pouring. Use domain: professional | | |
| Operational conditions | | | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % | | |
| Physical state | Solid, medium dustiness | | |
| Vapour pressure of the substance during use | 130 Pa | | |
| Process temperature | 20 °C | | |
| Duration and Frequency of activity | 480 min 5 days per week | | |
| Indoor/Outdoor | Outdoor | | |
| Risk Management Measures | | | |
| Use suitable eye protection. | | | |
| Exposure estimate and reference to | its source | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | | |
| | Worker - dermal, long-term - systemic | | |
| Exposure estimate | 13.7143 mg/kg bw/day | | |
| Risk Characterization Ratio (RCR) | 0.106395 | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | | |
| | Worker - inhalation, long-term - systemic | | |
| Exposure estimate | 3.5 mg/m ³ | | |
| Risk Characterization Ratio (RCR) | 0.0796 | | |
| Guidance to Downstream Users | | | |
| For scaling see: http://www.ecetoc.org | ı/tra | | |

| Contributing exposure scenario | |
|--------------------------------|---|
| Use descriptors covered | PROC14: Tabletting, compression, extrusion, pelletisation, granulation Use domain: professional |
| Operational conditions | |

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| | ammonium chloride |
|---|---|
| Concentration of the substance | Content: >= 0 % - <= 100 % |
| | |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Outdoor |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to its source | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 3.4286 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.026599 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 3.5 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.0796 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/ | tra |

| Contributing exposure scenario | | |
|---|--|--|
| Use descriptors covered | PROC15: Use a laboratory reagent. Use domain: professional | |
| Operational conditions | | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % | |
| Physical state | Solid, medium dustiness | |
| Vapour pressure of the substance during use | 130 Pa | |
| Process temperature | 20 °C | |
| Duration and Frequency of activity | 480 min 5 days per week | |
| Indoor/Outdoor | Outdoor | |
| Risk Management Measures | | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to its source | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |
| Exposure estimate | 0.3429 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.00266 | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - inhalation, long-term - systemic | |
| Exposure estimate | 0.35 mg/m ³ | |

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Product: Ammonium chloride RWS food grade

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| Risk Characterization Ratio (RCR) | 0.00796 |
|--|---------|
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org | y/tra |

| Contributing exposure scenario | |
|---|--|
| <u> </u> | PROC19: Manual activities involving hand contact |
| Use descriptors covered | Use domain: professional |
| Operational conditions | |
| | ammonium chloride |
| Concentration of the substance | Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Outdoor |
| Risk Management Measures | |
| Use suitable chemically resistant gloves. | Effectiveness: 80 % |
| Use suitable eye protection. | |
| Exposure estimate and reference to | its source |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 28.2857 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.219439 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 3.5 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.0796 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/ | /tra |

| Contributing exposure scenario | |
|---|--|
| Use descriptors covered | PROC26: Handling of solid inorganic substances at ambient temperature Use domain: professional |
| Operational conditions | |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to its source | |
| Assessment method | Qualitative assessment |

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Additional good practice advice

There is no corresponding TRA entry concerning PROC 26 and thus, calculation of PROC 26 with TRA is not possible. To approximately map the activities described by PROC 26, PROC 5, 8b and 9 were used. PROC 8b and 9 were used to address the transfer, packaging, unpacking, and weighing while PROC 5 addresses mixing and blending activities

There is no corresponding TRA entry concerning PROC 26 and thus, calculation of PROC 26 with TRA is not possible. To approximately map the activities described by PROC 26, PROC 5, 8b and 9 were used. PROC 8b and 9 were used to address the transfer, packaging, unpacking, and weighing while PROC 5 addresses mixing and blending activities

* * * * * * * * * * * * * * * *

13. Short title of exposure scenario

Use as Reactive process agent, Use in/as Fertilizers, Use in Metallurgy, Use in Metal surface treatment, Use in Textile finishing, Use in Biotechnology, Use in leather tanning, finishing, impregnation, Professional applications, (outdoor use)

PW; SU5, SU10, SU14, SU15; ERC8e; PROC2, PROC3, PROC4, PROC5, PROC6, PROC8b, PROC9, PROC10, PROC11, PROC13, PROC14, PROC19, PROC26

Control of exposure and risk management measures

| 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. |
| Operational conditions | <u> </u> |

| 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 Use domain: professional |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Outdoor |
| Risk Management Measures | |
| Use suitable eye protection. | |

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| Exposure estimate and reference to its source | |
|---|---|
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 1.3714 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.010639 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 0.7 mg/m ³ |
| Risk Characterization Ratio (RCR) | 0.01592 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/tra | |

| 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 Use domain: professional | |
| Operational conditions | | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % | |
| Physical state | Solid, medium dustiness | |
| Vapour pressure of the substance during use | 130 Pa | |
| Process temperature | 20 °C | |
| Duration and Frequency of activity | 480 min 5 days per week | |
| Indoor/Outdoor | Outdoor | |
| Risk Management Measures | | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to its source | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |
| Exposure estimate | 0.6857 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.00532 | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - inhalation, long-term - systemic | |
| Exposure estimate | 0.7 mg/m ³ | |
| Risk Characterization Ratio (RCR) | 0.01592 | |
| Guidance to Downstream Users | | |
| For scaling see: http://www.ecetoc.org/ | tra | |

| Contributing exposure scenario | |
|--------------------------------|---|
| Use descriptors covered | PROC4: Chemical production where opportunity for exposure arises Use domain: professional |
| Operational conditions | |

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(ID no. 30042426/SDS_GEN_IE/EN)

| | ammonium chloride |
|---|---|
| Concentration of the substance | Content: >= 0 % - <= 100 % |
| | |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Outdoor |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to | its source |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 6.8571 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.053197 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 3.5 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.0796 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/t | tra |

| Contributing exposure scenario | |
|---|---|
| Use descriptors covered | PROC5: Mixing or blending in batch processes Use domain: professional |
| Operational conditions | L |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Outdoor |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to | its source |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 13.7143 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.106395 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 3.5 mg/m ³ |

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| Risk Characterization Ratio (RCR) | 0.0796 |
|--|--------|
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/tra | |

| Contributing exposure scenario | | |
|---|---|--|
| <u> </u> | PROC6: Calendering operations | |
| Use descriptors covered | Use domain: professional | |
| Operational conditions | | |
| | ammonium chloride | |
| Concentration of the substance | Content: >= 0 % - <= 100 % | |
| Physical state | Solid, medium dustiness | |
| Vapour pressure of the substance during use | 130 Pa | |
| Process temperature | 20 °C | |
| Duration and Frequency of activity | 480 min 5 days per week | |
| Indoor/Outdoor | Outdoor | |
| Risk Management Measures | | |
| Use suitable eye protection. | | |
| Exposure estimate and reference to its source | | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - dermal, long-term - systemic | |
| Exposure estimate | 27.4286 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.21279 | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker | |
| | Worker - inhalation, long-term - systemic | |
| Exposure estimate | 3.5 mg/m³ | |
| Risk Characterization Ratio (RCR) | 0.0796 | |
| Guidance to Downstream Users | | |
| For scaling see: http://www.ecetoc.org | ı/tra | |

| Contributing exposure scenario | |
|---|--|
| Use descriptors covered | PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities Use domain: professional |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Outdoor |

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| Risk Management Measures | |
|---|---|
| Use suitable eye protection. | |
| Exposure estimate and reference to its source | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 13.7143 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.106395 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 3.5 mg/m ³ |
| Risk Characterization Ratio (RCR) | 0.0796 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/tra | |

| Contributing exposure scenario | |
|---|--|
| Use descriptors covered | PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing). Use domain: professional |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Outdoor |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 6.8571 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.053197 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 3.5 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.0796 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/t | ra |

| Contributing exposure scenario | |
|--------------------------------|---|
| Use descriptors covered | PROC10: Roller application or brushing Use domain: professional |
| Operational conditions | |
| Concentration of the substance | ammonium chloride |

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| | Content: >= 0 % - <= 100 % |
|---|---|
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Outdoor |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to its source | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 27.4286 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.21279 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 3.5 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.0796 |
| 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 chloride Content: >= 0 % - < 1 % |
| Physical state | liquid |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Outdoor |
| Application rate | > 3 l/min |
| Risk Management Measures | |
| Ensure that the task is carried out only downward. | |
| Ensure that the task is being carried | |
| out outside the breathing zone of a | |
| worker (distance head-product greater | |
| than 1m). | |
| Ensure that the worker is in a | |
| personal enclosure | |
| Use suitable eye protection. | |

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| Exposure estimate and reference to its source | |
|---|---|
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 10.7143 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.083121 |
| Assessment method | EASY TRA v4.2, Advanced REACH Tool v1.5 |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 0.26 mg/m ³ |
| Risk Characterization Ratio (RCR) | 0.005913 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/tra | |

| Contributing exposure scenario | |
|---|--|
| Has descriptors solvered | PROC11: Non industrial spraying Use domain: professional |
| Use descriptors covered | ose domain, professional |
| Operational conditions | L |
| | ammonium chloride |
| Concentration of the substance | Content: >= 0 % - < 1 % |
| Physical state | liquid |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Outdoor |
| Application rate | > 3 l/min |
| Risk Management Measures | |
| Ensure that the task is carried out only | |
| downward. | |
| Surface spraying with no or low | |
| compressed air use. | |
| Use suitable eye protection. | |
| Exposure estimate and reference to it | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 10.7143 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.083121 |
| Assessment method | EASY TRA v4.2, Advanced REACH Tool v1.5 |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 3.2 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.072777 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/tra | |

| Contributing exposure scenario | |
|--------------------------------|--|
| Use descriptors covered | PROC13: Treatment of articles by dipping and pouring. Use domain: professional |

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| Operational conditions | |
|--|---|
| | ammonium chloride |
| Concentration of the substance | Content: >= 0 % - <= 100 % |
| | |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance | 130 Pa |
| during use | |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Outdoor |
| | Outdoor |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 13.7143 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.106395 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 3.5 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.0796 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/tra | |

| Contributing exposure scenario | |
|---|---|
| Use descriptors covered | PROC14: Tabletting, compression, extrusion, pelletisation, granulation Use domain: professional |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Outdoor |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to its source | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 3.4286 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.026599 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |

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| | Worker - inhalation, long-term - systemic |
|--|---|
| Exposure estimate | 3.5 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.0796 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/tra | |

| Contributing exposure scenario | |
|--|--|
| | PROC19: Manual activities involving hand contact |
| Use descriptors covered | Use domain: professional |
| Operational conditions | |
| | ammonium chloride |
| Concentration of the substance | Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance | 130 Pa |
| during use | |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Outdoor |
| Risk Management Measures | |
| Use suitable chemically resistant | Effectiveness: 80 % |
| gloves. | Effectiveness. 60 70 |
| Use suitable eye protection. | |
| Exposure estimate and reference to it | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 28.2857 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.219439 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 3.5 mg/m ³ |
| Risk Characterization Ratio (RCR) | 0.0796 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/t | ra |

| Contributing exposure scenario | |
|---|--|
| Use descriptors covered | PROC26: Handling of solid inorganic substances at ambient temperature Use domain: professional |
| Operational conditions | |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Risk Management Measures | • |
| Use suitable eye protection. | |

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| Exposure estimate and reference to its source | |
|---|--|
| Assessment method Qualitative assessment | |
| Additional good practice advice | |
| There is no corresponding TRA entry concerning PROC 26 and thus, calculation of PROC 26 with | |
| TRA is not possible. To approximately map the activities described by PROC 26, PROC 5, 8b and 9 | |

TRA is not possible. To approximately map the activities described by PROC 26, PROC 5, 8b and 9 were used. PROC 8b and 9 were used to address the transfer, packaging, unpacking, and weighing while PROC 5 addresses mixing and blending activities

There is no corresponding TRA entry concerning PROC 26 and thus, calculation of PROC 26 with TRA is not possible. To approximately map the activities described by PROC 26, PROC 5, 8b and 9 were used. PROC 8b and 9 were used to address the transfer, packaging, unpacking, and weighing while PROC 5 addresses mixing and blending activities

* * * * * * * * * * * * * * * *

14. Short title of exposure scenario

Use in Wood articles, Service life of articles, Consumer applications C; C; ERC10a, ERC11a; AC11

Control of exposure and risk management measures

| Contributing exposure scenario | |
|--------------------------------|---|
| Use descriptors covered | ERC10a: Widespread use of articles with low release (outdoor) As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed. |
| Operational conditions | |

| Contributing exposure scenario | |
|--------------------------------|--|
| Use descriptors covered | ERC11a: Widespread use of articles with low release (indoor) As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed. |
| Operational conditions | |

| Contributing exposure scenario | |
|---|---|
| Use descriptors covered | AC11-3: Wood and wood furniture: toys. |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 2 % |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 365 uses per year |

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| Duration and Frequency of activity | 365 uses per year |
|---|--|
| body weight | 7.2 kg |
| Uptake fraction dermal | 100 % |
| Uptake fraction oral | 100 % |
| | Amount per use 10 g Relevant for dermal exposure estimates |
| | Amount ingested 0.1 g Relevant for oral exposure estimates |
| Exposure estimate and reference to | its source |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Dermal model: instant application, Uptake model: Uptake fraction |
| | Consumer - dermal, long-term - systemic |
| Exposure estimate | 27.7778 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.503221 |
| | The calculation is based on the internal chronic dose. |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Oral model: direct intake, |
| Assessment method | Uptake model: Uptake fraction |
| | Consumer - oral, long-term - systemic |
| Exposure estimate | 0.2778 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.005032 |
| | The calculation is based on the internal chronic dose. |
| Guidance to Downstream Users | |
| For scaling see: http://www.rivm.nl/en/ | healthanddisease/productsafety/ConsExpo.jsp |

| Contributing exposure scenario | |
|---|--|
| Use descriptors covered | AC11-1: Wood and wood furniture: flooring. |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 5 % |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 365 uses per year |
| body weight | 65 kg |
| Uptake fraction dermal | 100 % |
| | Amount per use 8.75 g Relevant for dermal exposure estimates |
| Exposure estimate and reference to its source | |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Dermal model: instant application, Uptake model: Uptake fraction |

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| | Consumer - dermal, long-term - systemic |
|--|--|
| Exposure estimate | 6.7308 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.121934 |
| | The calculation is based on the internal chronic dose. |
| Guidance to Downstream Users | |
| For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp | |

| Contributing exposure scenario | Contributing exposure scenario | |
|---|---|--|
| Use descriptors covered | AC11: Wood articles | |
| Operational conditions | | |
| | ammonium chloride | |
| Concentration of the substance | Content: >= 0 % - <= 10 % | |
| Vapour pressure of the substance during use | 130 Pa | |
| Process temperature | 20 °C | |
| Duration and Frequency of activity | 182 uses per year | |
| Duration and Frequency of activity | 182 uses per year | |
| body weight | 7.2 kg | |
| Uptake fraction dermal | 100 % | |
| Uptake fraction oral | 100 % | |
| | Amount per use 0.56 g Relevant for dermal exposure | |
| | estimates | |
| | Amount ingested 0.1 g Relevant for oral exposure | |
| | estimates | |
| Exposure estimate and reference to | | |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Dermal model: instant | |
| | application, Uptake model: Uptake fraction | |
| Exposure estimate | Consumer - dermal, long-term - systemic 3.8782 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.070258 | |
| NISK CHARACTERIZATION RATIO (RCR) | The calculation is based on the internal chronic dose. | |
| | EASY TRA v4.2, ConsExpo v4.1, Oral model: direct intake, | |
| Assessment method | Uptake model: Uptake fraction | |
| | Consumer - oral, long-term - systemic | |
| Exposure estimate | 0.6925 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.012546 | |
| THOR OHARAGOTIZATION TRATE (NOT) | The calculation is based on the internal chronic dose. | |
| Guidance to Downstream Users | The salediation is based on the internal emerite adde. | |
| | healthanddisease/productsafety/ConsExpo.jsp | |
| | | |

| Contributing exposure scenario | |
|--------------------------------|---|
| Use descriptors covered | AC11-2: Wood and wood furniture: furniture. |

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| Operational conditions | |
|--|--|
| | ammonium chloride |
| Concentration of the substance | Content: >= 0 % - <= 10 % |
| | |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 365 uses per year |
| body weight | 65 kg |
| Uptake fraction dermal | 100 % |
| | Amount per use 8.75 g Relevant for dermal exposure |
| | estimates |
| Exposure estimate and reference to its source | |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Dermal model: instant |
| Assessment method | application, Uptake model: Uptake fraction |
| | Consumer - dermal, long-term - systemic |
| Exposure estimate | 13.4615 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.243868 |
| | The calculation is based on the internal chronic dose. |
| Guidance to Downstream Users | |
| For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp | |

* * * * * * * * * * * * * * * *

15. Short title of exposure scenario

Use in Biotechnology, Industrial applications ERC6a, ERC6b; PROC4, PROC9

Control of exposure and risk management measures

| 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. |
| Operational conditions | |

| 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. |
| Operational conditions | |

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| Contributing exposure scenario | |
|---|---|
| Use descriptors covered | PROC4: Chemical production where opportunity for exposure arises Use domain: industrial |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |
| Use suitable eye protection. | |
| Exposure estimate and reference to | |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 6.8571 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.053197 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 5 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.113714 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/ | tra |

| Contributing exposure scenario | |
|---|--|
| Use descriptors covered | PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing). Use domain: industrial |
| Operational conditions | |
| | ammonium chloride |
| Concentration of the substance | Content: >= 0 % - <= 100 % |
| Physical state | Solid, medium dustiness |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 480 min 5 days per week |
| Indoor/Outdoor | Indoor |
| Risk Management Measures | |
| Use suitable eye protection. | |

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| Exposure estimate and reference to its source | |
|---|---|
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - dermal, long-term - systemic |
| Exposure estimate | 6.8571 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.053197 |
| Assessment method | EASY TRA v4.2, ECETOC TRA v3.0, Worker |
| | Worker - inhalation, long-term - systemic |
| Exposure estimate | 5 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.113714 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/tra | |

* * * * * * * * * * * * * * * *

16. Short title of exposure scenario

Use in Cleaning Agents, Use in/as Laundry agents, Consumer applications C; C; ERC8a, ERC8d; PC35, PC39

Control of exposure and risk management measures

| 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. |
| Operational conditions | |

| 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. |
| Operational conditions | |

| Contributing exposure scenario | | |
|----------------------------------|--|--|
| Use descriptors covered | PC8_2, PC35_2: Subcategory: Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners) | |
| Operational conditions | | |
| | ammonium chloride | |
| Concentration of the substance | Content: >= 0 % - <= 10 % | |
| | | |
| Vapour pressure of the substance | 130 Pa | |
| during use | | |
| Process temperature | 20 °C | |

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| Duration and Frequency of activity | Exposure duration: 0.75 min |
|---|--|
| | Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | Application duration: 0.3 min |
| | Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | < 1 uses per year |
| Room size | 1 m3 |
| Ventilation rate per hour | 0.5 |
| Temperature (Application) | 20 °C |
| body weight | 65 kg |
| Uptake fraction dermal | 100 % |
| | Amount per use 0.01 g Relevant for dermal exposure estimates |
| Release area | 20 cm ² |
| | Release area is constant |
| Release duration | 0.3 min |
| | Relevant for inhalative exposure estimates |
| Exposure estimate and reference to | |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Dermal model: instant application, Uptake model: Uptake fraction |
| | Consumer - dermal, long-term - systemic |
| Exposure estimate | 0.0001 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.000001 |
| | The calculation is based on the internal chronic dose. |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Inhalation model: |
| Assessmentmethod | exposure to vapour - evaporation |
| | Consumer - inhalation, long-term - systemic |
| Exposure estimate | 0.0001 mg/m ³ |
| Risk Characterization Ratio (RCR) | 0.000001 |
| | The exposure calculation is based on the mean |
| | concentration per year. |
| Guidance to Downstream Users | |
| For scaling see: http://www.rivm.nl/en/ | /healthanddisease/productsafety/ConsExpo.jsp |

| Contributing exposure scenario | | |
|---|--|--|
| Use descriptors covered | PC8_2, PC35_2: Subcategory: Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners) | |
| Operational conditions | | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 15 % | |
| Vapour pressure of the substance during use | 130 Pa | |
| Process temperature | 20 °C | |
| Duration and Frequency of activity | Exposure duration: 0.75 min | |

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| | Relevant for inhalative exposure estimates |
|---|--|
| Duration and Frequency of activity | Application duration: 0.3 min |
| | Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | 4 uses per year |
| Room size | 1 m3 |
| Ventilation rate per hour | 2 |
| Temperature (Application) | 20 °C |
| body weight | 65 kg |
| Uptake fraction dermal | 100 % |
| | Amount per use 0.01 g Relevant for dermal exposure |
| | estimates |
| Release area | 20 cm ² |
| | Release area is constant |
| Release duration | 0.3 min |
| | Relevant for inhalative exposure estimates |
| Exposure estimate and reference to | its source |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Dermal model: instant |
| | application, Uptake model: Uptake fraction |
| | Consumer - dermal, long-term - systemic |
| Exposure estimate | 0.0003 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.000005 |
| | The calculation is based on the internal chronic dose. |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Inhalation model: |
| 7.03033mcm motilod | exposure to vapour - evaporation |
| | Consumer - inhalation, long-term - systemic |
| Exposure estimate | 0.0001 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.000001 |
| | The exposure calculation is based on the mean |
| | concentration per year. |
| Guidance to Downstream Users | |
| For scaling see: http://www.rivm.nl/en/ | healthanddisease/productsafety/ConsExpo.jsp |

| Contributing exposure scenario | |
|---|--|
| Use descriptors covered | PC8_2, PC35_2: Subcategory: Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners) |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 15 % |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | Exposure duration: 0.75 min Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | Application duration: 0.3 min |

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| | Relevant for inhalative exposure estimates |
|--|--|
| Duration and Frequency of activity | 104 uses per year |
| Room size | 58 m3 |
| Ventilation rate per hour | 0.5 |
| Temperature (Application) | 20 °C |
| body weight | 65 kg |
| Uptake fraction dermal | 100 % |
| | Amount per use 0.01 g Relevant for dermal exposure estimates |
| Release area | 20 cm ² |
| | Release area is constant |
| Release duration | 0.3 min |
| | Relevant for inhalative exposure estimates |
| Exposure estimate and reference to | |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Dermal model: instant application, Uptake model: Uptake fraction |
| | Consumer - dermal, long-term - systemic |
| Exposure estimate | 0.0066 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.000119 |
| | The calculation is based on the internal chronic dose. |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Inhalation model: |
| Assessment method | exposure to vapour - evaporation |
| | Consumer - inhalation, long-term - systemic |
| Exposure estimate | 0.0001 mg/m ³ |
| Risk Characterization Ratio (RCR) | 0.000001 |
| | The exposure calculation is based on the mean |
| | concentration per year. |
| Guidance to Downstream Users | |
| For scaling see: http://www.rivm.nl/en/h | nealthanddisease/productsafety/ConsExpo.jsp |

| Contributing exposure scenario | |
|---|--|
| Use descriptors covered | PC8_2, PC35_2: Subcategory: Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners) |
| Operational conditions | • |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 15 % |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | Exposure duration: 0.75 min Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | Application duration: 0.3 min Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | 104 uses per year |

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| Room size | 1 m3 |
|---|--|
| Ventilation rate per hour | 0.5 |
| Temperature (Application) | 20 °C |
| body weight | 65 kg |
| Uptake fraction dermal | 100 % |
| | Amount per use 0.01 g Relevant for dermal exposure estimates |
| Release area | 20 cm ² |
| | Release area is constant |
| Release duration | 0.3 min |
| | Relevant for inhalative exposure estimates |
| Exposure estimate and reference to | its source |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Dermal model: instant application, Uptake model: Uptake fraction |
| | Consumer - dermal, long-term - systemic |
| Exposure estimate | 0.0066 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.000119 |
| | The calculation is based on the internal chronic dose. |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Inhalation model: |
| Assessment method | exposure to vapour - evaporation |
| | Consumer - inhalation, long-term - systemic |
| Exposure estimate | 0.0001 mg/m ³ |
| Risk Characterization Ratio (RCR) | 0.000001 |
| | The exposure calculation is based on the mean |
| | concentration per year. |
| Guidance to Downstream Users | |
| For scaling see: http://www.rivm.nl/en/ | healthanddisease/productsafety/ConsExpo.jsp |

| Contributing exposure scenario | Contributing exposure scenario | |
|---|--|--|
| Use descriptors covered | PC8_2, PC35_2: Subcategory: Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners) | |
| Operational conditions | | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 10 % | |
| Vapour pressure of the substance during use | 130 Pa | |
| Process temperature | 20 °C | |
| Duration and Frequency of activity | Exposure duration: 110 min Relevant for inhalative exposure estimates | |
| Duration and Frequency of activity | Application duration: 110 min Relevant for inhalative exposure estimates | |
| Duration and Frequency of activity | < 1 uses per year | |
| Room size | 58 m3 | |

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| Ventilation rate per hour | 0.5 |
|--|--|
| Temperature (Application) | 20 °C |
| body weight | 65 kg |
| Uptake fraction dermal | 100 % |
| | Amount per use 27 g Relevant for dermal exposure estimates |
| Release area | 220000 cm ² |
| | Release area increases over time |
| Release duration | 110 min |
| | Relevant for inhalative exposure estimates |
| Exposure estimate and reference to | its source |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Dermal model: instant application, Uptake model: Uptake fraction |
| | Consumer - dermal, long-term - systemic |
| Exposure estimate | 0.0569 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.001031 |
| | The calculation is based on the internal chronic dose. |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Inhalation model: |
| | exposure to vapour - evaporation |
| F | Consumer - inhalation, long-term - systemic |
| Exposure estimate | 0.0066 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.000706 |
| | The exposure calculation is based on the mean |
| Ovidence to Downstreem Users | concentration per year. |
| Guidance to Downstream Users | and the filter and the first to |
| For scaling see: http://www.rivm.nl/en/r | nealthanddisease/productsafety/ConsExpo.jsp |

| Contributing exposure scenario | |
|---|--|
| Use descriptors covered | PC8_2, PC35_2: Subcategory: Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners) |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 15 % |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | Exposure duration: 25 min Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | Application duration: 20 min Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | 4 uses per year |
| Room size | 10 m3 |
| Ventilation rate per hour | 2 |
| Temperature (Application) | 20 °C |

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| body weight | 65 kg |
|--|--|
| Uptake fraction dermal | 100 % |
| | Amount per use 19 g Relevant for dermal exposure |
| | estimates |
| Release area | 64000 cm ² |
| | Release area increases over time |
| Release duration | 20 min |
| | Relevant for inhalative exposure estimates |
| Exposure estimate and reference to | its source |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Dermal model: instant |
| Assessment method | application, Uptake model: Uptake fraction |
| | Consumer - dermal, long-term - systemic |
| Exposure estimate | 0.4805 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.008705 |
| | The calculation is based on the internal chronic dose. |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Inhalation model: |
| Assessment method | exposure to vapour - evaporation |
| | Consumer - inhalation, long-term - systemic |
| Exposure estimate | 0.0143 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.001519 |
| | The exposure calculation is based on the mean |
| | concentration per year. |
| Guidance to Downstream Users | |
| For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp | |

| Contributing exposure scenario | |
|---|--|
| Use descriptors covered | PC8_2, PC35_2: Subcategory: Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners) |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 50 % |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | Exposure duration: 240 min Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | 365 uses per year |
| Room size | 58 m3 |
| Ventilation rate per hour | 0.5 |
| body weight | 65 kg |
| Uptake fraction dermal | 100 % |
| Spray duration | 42 sec |

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| Contact rate | 46 mg/min |
|--|--|
| Release duration | 0.7 min |
| | Relevant for dermal exposure estimates |
| Risk Management Measures | |
| Consumer Measures | Ensure spraying away from persons. |
| Exposure estimate and reference to | its source |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Dermal model: constant |
| Assessment method | application rate, Uptake model: Uptake fraction |
| | Consumer - dermal, long-term - systemic |
| Exposure estimate | 0.2477 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.004487 |
| | The calculation is based on the internal chronic dose. |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Inhalation model: |
| Assessment method | Exposure to spray/dust |
| | Consumer - inhalation, long-term - systemic |
| Exposure estimate | 0.0725 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.007712 |
| | The exposure calculation is based on the mean |
| | concentration per year. |
| Guidance to Downstream Users | |
| For scaling see: http://www.rivm.nl/en/h | nealthanddisease/productsafety/ConsExpo.jsp |

| Contributing exposure scenario | |
|---|--|
| Use descriptors covered | PC8_2, PC35_2: Subcategory: Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners) |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 50 % |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 365 uses per year |
| body weight | 65 kg |
| Uptake fraction dermal | 100 % |
| | Amount per use 0.29 g Relevant for dermal exposure estimates |
| Exposure estimate and reference to | its source |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Dermal model: instant application, Uptake model: Uptake fraction |
| | Consumer - dermal, long-term - systemic |
| Exposure estimate | 2.2308 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.040412 |
| | The calculation is based on the internal chronic dose. |
| Guidance to Downstream Users | |

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For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp

| Contributing exposure scenario | |
|---|--|
| Use descriptors covered | PC8_2, PC35_2: Subcategory: Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners) |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 50 % |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | Exposure duration: 3 min Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | Application duration: 2 min Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | 260 uses per year |
| Room size | 2.5 m3 |
| Ventilation rate per hour | 2 |
| Temperature (Application) | 20 °C |
| body weight | 65 kg |
| Uptake fraction dermal | 100 % |
| | Amount per use 2.2 g Relevant for dermal exposure estimates |
| Release area | 750 cm ² |
| | Release area is constant |
| Release duration | 2 min |
| | Relevant for inhalative exposure estimates |
| Exposure estimate and reference to | |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Dermal model: instant application, Uptake model: Uptake fraction |
| | Consumer - dermal, long-term - systemic |
| Exposure estimate | 12.0548 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.218384 |
| | The calculation is based on the internal chronic dose. |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Inhalation model: |
| | exposure to vapour - evaporation |
| Evnosura astimata | Consumer - inhalation, long-term - systemic |
| Exposure estimate Risk Characterization Ratio (RCR) | 0.0162 mg/m³ 0.001719 |
| NISK CHARACIERIZALION RALIO (RCR) | The exposure calculation is based on the mean |
| | concentration per year. |
| Guidance to Downstream Users | 1 / |
| | /healthanddisease/productsafety/ConsExpo.jsp |

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| Contributing exposure scenario | |
|---|--|
| Use descriptors covered | PC8_2, PC35_2: Subcategory: Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners) |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 50 % |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | Exposure duration: 3 min Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | Application duration: 2 min Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | 260 uses per year |
| Room size | 2.5 m3 |
| Ventilation rate per hour | 2 |
| Temperature (Application) | 20 °C |
| body weight | 65 kg |
| Uptake fraction dermal | 100 % |
| | Amount per use 2.2 g Relevant for dermal exposure estimates |
| Release area | 750 cm ² |
| | Release area is constant |
| Release duration | 2 min |
| | Relevant for inhalative exposure estimates |
| Exposure estimate and reference to | |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Dermal model: instant application, Uptake model: Uptake fraction |
| | Consumer - dermal, long-term - systemic |
| Exposure estimate | 12.0548 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.218384 |
| | The calculation is based on the internal chronic dose. |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Inhalation model: |
| Assessment inethor | exposure to vapour - evaporation |
| | Consumer - inhalation, long-term - systemic |
| Exposure estimate | 0.0162 mg/m ³ |
| Risk Characterization Ratio (RCR) | 0.001719 |
| | The exposure calculation is based on the mean concentration per year. |
| Guidance to Downstream Users | |
| | /healthanddisease/productsafety/ConsExpo.jsp |

| Contributing exposure scenario | |
|--------------------------------|--|
| Use descriptors covered | PC8_2, PC35_2: Subcategory: Cleaners, liquids (all |

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| | purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners) |
|---|---|
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 50 % |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | Exposure duration: 10 min Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | Application duration: 7.6 min Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | 156 uses per year |
| Room size | 2.5 m3 |
| Ventilation rate per hour | 2 |
| Temperature (Application) | 20 °C |
| body weight | 65 kg |
| Uptake fraction dermal | 100 % |
| | Amount per use 0.37 g Relevant for dermal exposure estimates |
| Release area | 40000 cm ² |
| | Release area increases over time |
| Release duration | 7.6 min |
| | Relevant for inhalative exposure estimates |
| Exposure estimate and reference to | |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Dermal model: instant application, Uptake model: Uptake fraction |
| | Consumer - dermal, long-term - systemic |
| Exposure estimate | 1.2164 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.022037 |
| | The calculation is based on the internal chronic dose. |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Inhalation model: |
| Assessment method | exposure to vapour - evaporation |
| | Consumer - inhalation, long-term - systemic |
| Exposure estimate | 1.9851 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.211177 |
| | The exposure calculation is based on the mean |
| | concentration per year. |
| Guidance to Downstream Users | |
| | healthanddisease/productsafety/ConsExpo.jsp |

| Contributing exposure scenario | |
|--------------------------------|--|
| | PC8_2, PC35_2: Subcategory: Cleaners, liquids (all |
| Use descriptors covered | purpose cleaners, sanitary products, floor cleaners, glass |
| | cleaners, carpet cleaners, metal cleaners) |

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| Operational conditions | |
|---|--|
| | ammonium chloride |
| Concentration of the substance | Content: >= 0 % - <= 5 % |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | Exposure duration: 240 min Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | Application duration: 20 min Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | 104 uses per year |
| Room size | 58 m3 |
| Ventilation rate per hour | 0.5 |
| Temperature (Application) | 20 °C |
| body weight | 65 kg |
| Uptake fraction dermal | 100 % |
| | Amount per use 19 g Relevant for dermal exposure estimates |
| Release area | 100000 cm ² |
| | Release area increases over time |
| Release duration | 20 min |
| | Relevant for inhalative exposure estimates |
| Exposure estimate and reference to | its source |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Dermal model: instant application, Uptake model: Uptake fraction |
| | Consumer - dermal, long-term - systemic |
| Exposure estimate | 4.1644 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.075442 |
| | The calculation is based on the internal chronic dose. |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Inhalation model: |
| Assessment method | exposure to vapour - evaporation |
| | Consumer - inhalation, long-term - systemic |
| Exposure estimate | 1.8649 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.198394 |
| | The exposure calculation is based on the mean concentration per year. |
| Guidance to Downstream Users | Concentration per year. |
| | healthanddisease/productsafety/ConsExpo.jsp |
| Tor Journal Joe. Http://www.nvm.ni/en/ | Troutification of production of the polypolypo |

| Contributing exposure scenario | |
|--------------------------------|--|
| Use descriptors covered | PC8_2, PC35_2: Subcategory: Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners) |
| Operational conditions | |

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| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 50 % |
|---|--|
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | Exposure duration: 60 min Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | Application duration: 2 min Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | 365 uses per year |
| Room size | 20 m3 |
| Ventilation rate per hour | 0.6 |
| Temperature (Application) | 20 °C |
| body weight | 65 kg |
| Uptake fraction dermal | 100 % |
| | Amount per use 0.047 g Relevant for dermal exposure estimates |
| Release area | 20000 cm ² |
| | Release area increases over time |
| Release duration | 2 min |
| | Relevant for inhalative exposure estimates |
| Exposure estimate and reference to | |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Dermal model: instant application, Uptake model: Uptake fraction |
| | Consumer - dermal, long-term - systemic |
| Exposure estimate | 0.3615 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.00655 |
| | The calculation is based on the internal chronic dose. |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Inhalation model: |
| A33C33MERICHIERROU | exposure to vapour - evaporation |
| | Consumer - inhalation, long-term - systemic |
| Exposure estimate | 2.5757 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.274012 |
| | The exposure calculation is based on the mean concentration per year. |
| Guidance to Downstream Users | |
| For scaling see: http://www.rivm.nl/en/h | nealthanddisease/productsafety/ConsExpo.jsp |

| Contributing exposure scenario | |
|--------------------------------|--|
| Use descriptors covered | PC8_2, PC35_2: Subcategory: Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners) |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 5 % |

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| Vapour pressure of the substance during use | 130 Pa | |
|--|--|--|
| Process temperature | 20 °C | |
| Duration and Frequency of activity | Exposure duration: 240 min Relevant for inhalative exposure estimates | |
| Duration and Frequency of activity | Application duration: 30 min Relevant for inhalative exposure estimates | |
| Duration and Frequency of activity | 104 uses per year | |
| Room size | 58 m3 | |
| Ventilation rate per hour | 0.5 | |
| Temperature (Application) | 20 °C | |
| body weight | 65 kg | |
| Uptake fraction dermal | 100 % | |
| | Amount per use 19 g Relevant for dermal exposure estimates | |
| Release area | 220000 cm ² | |
| | Release area increases over time | |
| Release duration | 30 min | |
| | Relevant for inhalative exposure estimates | |
| Exposure estimate and reference to | its source | |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Dermal model: instant application, Uptake model: Uptake fraction | |
| | Consumer - dermal, long-term - systemic | |
| Exposure estimate | 4.1644 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.075442 | |
| | The calculation is based on the internal chronic dose. | |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Inhalation model: | |
| Assessment method | exposure to vapour - evaporation | |
| | Consumer - inhalation, long-term - systemic | |
| Exposure estimate | 2.0444 mg/m ³ | |
| Risk Characterization Ratio (RCR) | 0.21749 | |
| | The exposure calculation is based on the mean concentration per year. | |
| Guidance to Downstream Users | | |
| For scaling see: http://www.rivm.nl/en/ | healthanddisease/productsafety/ConsExpo.jsp | |
| 1 of obtaining obstitute in the international control of the contr | | |

| Contributing exposure scenario | | |
|---|--|--|
| Use descriptors covered | PC8_3, PC35_3: Subcategory: Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners) | |
| Operational conditions | | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 20 % | |
| Vapour pressure of the substance during use | 130 Pa | |

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| Process temperature | 20 °C |
|---|--|
| Duration and Frequency of activity | Exposure duration: 60 min Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | 365 uses per year |
| Room size | 15 m3 |
| Ventilation rate per hour | 2.5 |
| body weight | 65 kg |
| Uptake fraction dermal | 100 % |
| Spray duration | 24.6 sec |
| Contact rate | 46 mg/min |
| Release duration | 0.41 min |
| | Relevant for dermal exposure estimates |
| Risk Management Measures | |
| Consumer Measures | Ensure spraying away from persons. |
| Exposure estimate and reference to | o its source |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Dermal model: constant application rate, Uptake model: Uptake fraction |
| | Consumer - dermal, long-term - systemic |
| Exposure estimate | 0.058 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.001051 |
| | The calculation is based on the internal chronic dose. |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Inhalation model: |
| Assessment method | Exposure to spray/dust |
| | Consumer - inhalation, long-term - systemic |
| Exposure estimate | 0.0206 mg/m ³ |
| Risk Characterization Ratio (RCR) | 0.002195 |
| | The exposure calculation is based on the mean |
| | concentration per year. |
| Guidance to Downstream Users | |
| For scaling see: http://www.rivm.nl/en. | /healthanddisease/productsafety/ConsExpo.jsp |

| Contributing exposure scenario | |
|---|--|
| Use descriptors covered | PC8_3, PC35_3: Subcategory: Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners) |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 20 % |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | Exposure duration: 25 min Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | 52 uses per year |

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Product: Ammonium chloride RWS food grade

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| Room size | 10 m3 | |
|--|--|--|
| Ventilation rate per hour | 2 | |
| body weight | 65 kg | |
| Uptake fraction dermal | 100 % | |
| Spray duration | 90 sec | |
| Contact rate | 46 mg/min | |
| Release duration | 2.67 min | |
| | Relevant for dermal exposure estimates | |
| Risk Management Measures | | |
| Consumer Measures | Ensure spraying away from persons. | |
| Exposure estimate and reference to its source | | |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Dermal model: constant application rate, Uptake model: Uptake fraction | |
| | Consumer - dermal, long-term - systemic | |
| Exposure estimate | 0.0538 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.000974 | |
| | The calculation is based on the internal chronic dose. | |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Inhalation model: Exposure to spray/dust | |
| | Consumer - inhalation, long-term - systemic | |
| Exposure estimate | 0.0381 mg/m ³ | |
| Risk Characterization Ratio (RCR) | 0.004051 | |
| | The exposure calculation is based on the mean | |
| | concentration per year. | |
| Guidance to Downstream Users | | |
| For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp | | |

| Contributing exposure scenario | |
|---|--|
| Use descriptors covered | PC8_3, PC35_3: Subcategory: Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners) |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 50 % |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | Exposure duration: 50 min Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | 365 uses per year |
| body weight | 65 kg |
| Release duration | 86400 min |
| | Relevant for inhalative exposure estimates |
| Exposure estimate and reference to its source | |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Inhalation model: |

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| | exposure to vapour - constant rate |
|--|---|
| | Consumer - inhalation, long-term - systemic |
| Exposure estimate | 0.0866 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.009215 |
| | The exposure calculation is based on the mean |
| | concentration per year. |
| Guidance to Downstream Users | |
| For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp | |

| Contributing exposure scenario | | |
|---|---|--|
| PC8_3, PC35_3: Subcategory: Cleaners, trigger sprays (all | | |
| Use descriptors covered | purpose cleaners, sanitary products, glass cleaners) | |
| Operational conditions | | |
| | ammonium chloride | |
| Concentration of the substance | Content: >= 0 % - <= 20 % | |
| Vapour pressure of the substance during use | 130 Pa | |
| Process temperature | 20 °C | |
| Duration and Frequency of activity | Exposure duration: 25 min | |
| Duration and Frequency of activity | Relevant for inhalative exposure estimates | |
| Duration and Frequency of activity | Application duration: 20 min | |
| Duration and Frequency of activity | Relevant for inhalative exposure estimates | |
| Duration and Frequency of activity | 52 uses per year | |
| Room size | 10 m3 | |
| Ventilation rate per hour | 2 | |
| Temperature (Application) | 20 °C | |
| body weight | 65 kg | |
| Uptake fraction dermal | 100 % | |
| | Amount per use 0.3 g Relevant for dermal exposure estimates | |
| Release area | 64000 cm ² | |
| | Release area is constant | |
| Release duration | 20 min | |
| | Relevant for inhalative exposure estimates | |
| Exposure estimate and reference to | | |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Dermal model: instant | |
| Assessment method | application, Uptake model: Uptake fraction | |
| | Consumer - dermal, long-term - systemic | |
| Exposure estimate | 0.1315 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.002382 | |
| , | The calculation is based on the internal chronic dose. | |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Inhalation model: | |
| Assessment method | exposure to vapour - evaporation | |
| | Consumer - inhalation, long-term - systemic | |
| Exposure estimate | 0.7311 mg/m³ | |

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| Risk Characterization Ratio (RCR) | 0.077777 |
|--|---|
| | The exposure calculation is based on the mean |
| | concentration per year. |
| Guidance to Downstream Users | |
| For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp | |

| Contributing exposure scenario | |
|---|--|
| Use descriptors covered | PC8_3, PC35_3: Subcategory: Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners) |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 20 % |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | Exposure duration: 60 min Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | Application duration: 10 min Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | 365 uses per year |
| Room size | 15 m3 |
| Ventilation rate per hour | 2.5 |
| Temperature (Application) | 20 °C |
| body weight | 65 kg |
| Uptake fraction dermal | 100 % |
| | Amount per use 0.16 g Relevant for dermal exposure estimates |
| Release area | 17100 cm ² |
| | Release area is constant |
| Release duration | 10 min |
| | Relevant for inhalative exposure estimates |
| Exposure estimate and reference to | its source |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Dermal model: instant application, Uptake model: Uptake fraction |
| | Consumer - dermal, long-term - systemic |
| Exposure estimate | 0.4923 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.008919 |
| | The calculation is based on the internal chronic dose. |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Inhalation model: exposure to vapour - evaporation |
| | Consumer - inhalation, long-term - systemic |
| Exposure estimate | 1.3357 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.1421 |
| | The exposure calculation is based on the mean concentration per year. |

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Guidance to Downstream Users For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp

| Contributing exposure scenario | Contributing exposure scenario | |
|---|--|--|
| Use descriptors covered | PC8_1, PC35_1: Subcategory: Laundry and dish washing products | |
| Operational conditions | | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 6 % | |
| Vapour pressure of the substance during use | 130 Pa | |
| Process temperature | 20 °C | |
| Duration and Frequency of activity | 365 uses per year | |
| body weight | 65 kg | |
| Uptake fraction oral | 100 % | |
| | Amount ingested 0.42 mg Relevant for oral exposure estimates | |
| Exposure estimate and reference to its source | | |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Oral model: direct intake, Uptake model: Uptake fraction | |
| | Consumer - oral, long-term - systemic | |
| Exposure estimate | 0.0004 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.000007 | |
| | The calculation is based on the internal chronic dose. | |
| Guidance to Downstream Users | | |
| For scaling see: http://www.rivm.nl/en. | /healthanddisease/productsafety/ConsExpo.jsp | |

| Contributing exposure scenario | |
|---|--|
| Use descriptors covered | PC8_1, PC35_1: Subcategory: Laundry and dish washing products |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 6 % |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | Exposure duration: 0.75 min Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | Application duration: 0.3 min Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | 426 uses per year |

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| Room size | 1 m3 |
|--|--|
| Ventilation rate per hour | 2.5 |
| Temperature (Application) | 20 °C |
| body weight | 65 kg |
| Uptake fraction dermal | 100 % |
| | Amount per use 0.01 g Relevant for dermal exposure estimates |
| Release area | 20 cm ² |
| | Release area is constant |
| Release duration | 0.3 min |
| | Relevant for inhalative exposure estimates |
| Exposure estimate and reference to | its source |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Dermal model: instant application, Uptake model: Uptake fraction |
| | Consumer - dermal, long-term - systemic |
| Exposure estimate | 0.0108 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.000195 |
| | The calculation is based on the internal chronic dose. |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Inhalation model: |
| Assessment method | exposure to vapour - evaporation |
| | Consumer - inhalation, long-term - systemic |
| Exposure estimate | 0.0001 mg/m ³ |
| Risk Characterization Ratio (RCR) | 0.000001 |
| | The exposure calculation is based on the mean |
| | concentration per year. |
| Guidance to Downstream Users | |
| For scaling see: http://www.rivm.nl/en/h | nealthanddisease/productsafety/ConsExpo.jsp |

| Contributing exposure scenario | |
|---|--|
| Use descriptors covered | PC8_1, PC35_1: Subcategory: Laundry and dish washing products |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 10 % |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | Exposure duration: 10 min Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | 128 uses per year |
| Room size | 10 m3 |
| Ventilation rate per hour | 2 |
| body weight | 65 kg |
| Uptake fraction dermal | 100 % |

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| Spray duration | 3 sec |
|--|--|
| Contact rate | 46 mg/min |
| Release duration | 0.47 min |
| | Relevant for dermal exposure estimates |
| Risk Management Measures | |
| Consumer Measures | Ensure spraying away from persons. |
| Exposure estimate and reference to | its source |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Dermal model: constant |
| Assessment method | application rate, Uptake model: Uptake fraction |
| | Consumer - dermal, long-term - systemic |
| Exposure estimate | 0.0116 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.00021 |
| | The calculation is based on the internal chronic dose. |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Inhalation model: |
| Assessment method | Exposure to spray/dust |
| | Consumer - inhalation, long-term - systemic |
| Exposure estimate | 0.0006 mg/m ³ |
| Risk Characterization Ratio (RCR) | 0.000061 |
| | The exposure calculation is based on the mean |
| | concentration per year. |
| Guidance to Downstream Users | |
| For scaling see: http://www.rivm.nl/en | /healthanddisease/productsafety/ConsExpo.jsp |

| Contributing exposure scenario | |
|---|--|
| Use descriptors covered | PC8_1, PC35_1: Subcategory: Laundry and dish washing products |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 60 % |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | Exposure duration: 0.75 min Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | Application duration: 0.3 min Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | 365 uses per year |
| Room size | 1 m3 |
| Ventilation rate per hour | 2 |
| Temperature (Application) | 60 °C |
| body weight | 65 kg |
| Uptake fraction dermal | 100 % |
| | Amount per use 0.01 g Relevant for dermal exposure estimates |

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| Release area | 20 cm ² |
|--|--|
| | Release area is constant |
| Release duration | 0.3 min |
| | Relevant for inhalative exposure estimates |
| Exposure estimate and reference to it | its source |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Dermal model: instant |
| Assessment method | application, Uptake model: Uptake fraction |
| | Consumer - dermal, long-term - systemic |
| Exposure estimate | 0.0923 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.001672 |
| | The calculation is based on the internal chronic dose. |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Inhalation model: |
| Assessment method | exposure to vapour - evaporation |
| | Consumer - inhalation, long-term - systemic |
| Exposure estimate | 0.0001 mg/m ³ |
| Risk Characterization Ratio (RCR) | 0.000015 |
| | The exposure calculation is based on the mean |
| | concentration per year. |
| Guidance to Downstream Users | |
| For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp | |

| Contributing exposure scenario | |
|---|---|
| Use descriptors covered | PC8_1, PC35_1: Subcategory: Laundry and dish washing products |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 60 % |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | Exposure duration: 240 min Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | Application duration: 17 min Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | 365 uses per year |
| Room size | 20 m3 |
| Ventilation rate per hour | 0.6 |
| Temperature (Application) | 20 °C |
| body weight | 65 kg |
| Uptake fraction dermal | 100 % |
| | Amount per use 0.007 g Relevant for dermal exposure estimates |
| Release area | 10 cm ² |
| | Release area is constant |
| Release duration | 17 min |

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| | Relevant for inhalative exposure estimates |
|--|--|
| Exposure estimate and reference to its source | |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Dermal model: instant |
| | application, Uptake model: Uptake fraction |
| | Consumer - dermal, long-term - systemic |
| Exposure estimate | 0.0637 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.001154 |
| | The calculation is based on the internal chronic dose. |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Inhalation model: |
| Assessment method | exposure to vapour - evaporation |
| | Consumer - inhalation, long-term - systemic |
| Exposure estimate | 0.0085 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.000903 |
| | The exposure calculation is based on the mean |
| | concentration per year. |
| Guidance to Downstream Users | |
| For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp | |

| Contributing exposure scenario | | |
|--|--|--|
| Use descriptors covered | PC8_1, PC35_1: Subcategory: Laundry and dish washing products | |
| Operational conditions | | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 1 % | |
| Vapour pressure of the substance during use | 130 Pa | |
| Process temperature | 20 °C | |
| Duration and Frequency of activity | 365 uses per year | |
| body weight | 65 kg | |
| Skin contact factor | 80 % | |
| Uptake fraction dermal | 100 % | |
| Leachable fraction | 0.0076 % | |
| Exposure estimate and reference to its source | | |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Dermal model: migration, Uptake model: Uptake fraction | |
| | Consumer - dermal, long-term - systemic | |
| Exposure estimate | 0.1403 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) | 0.002542 | |
| | The calculation is based on the internal chronic dose. | |
| Guidance to Downstream Users | | |
| For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp | | |

| Contributing exposure scenario | |
|--------------------------------|--|
| Use descriptors covered | PC8_1, PC35_1: Subcategory: Laundry and dish washing |

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| | products |
|--|--|
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 6 % |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 128 uses per year |
| body weight | 65 kg |
| Uptake fraction dermal | 100 % |
| | Amount per use 0.65 g Relevant for dermal exposure estimates |
| Exposure estimate and reference to | ts source |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Dermal model: instant application, Uptake model: Uptake fraction |
| | Consumer - dermal, long-term - systemic |
| Exposure estimate | 0.2104 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.003812 |
| | The calculation is based on the internal chronic dose. |
| Guidance to Downstream Users | |
| For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp | |

| Contributing exposure scenario | |
|---|---|
| Use descriptors covered | PC8_1, PC35_1: Subcategory: Laundry and dish washing products |
| Operational conditions | |
| | ammonium chloride |
| Concentration of the substance | Content: >= 0 % - <= 10 % |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 128 uses per year |
| body weight | 65 kg |
| Uptake fraction dermal | 100 % |
| Contact rate | 46 mg/min |
| Release duration | 10 min |
| · | Relevant for dermal exposure estimates |
| Exposure estimate and reference to its source | |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Dermal model: constant |

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| | application rate, Uptake model: Uptake fraction |
|--|--|
| | Consumer - dermal, long-term - systemic |
| Exposure estimate | 0.2482 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.004496 |
| | The calculation is based on the internal chronic dose. |
| Guidance to Downstream Users | |
| For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp | |

| Contributing exposure scenario | |
|---|--|
| Use descriptors covered | PC8_1, PC35_1: Subcategory: Laundry and dish washing products |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 1 % |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | Exposure duration: 1 h 2 uses per year |
| Room size | 20 m3 |
| Ventilation rate per hour | 0.6 |
| Exposed skin area | Hands and forearms (1500 cm²) |
| Uptake fraction dermal | 100 % |
| | Amount per use 19 g Relevant for inhalative exposure estimates |
| Exposure estimate and reference to | its source |
| Assessment method | EASY TRA v4.2, ECETOC TRA, Consumer |
| | Consumer - dermal, long-term - systemic |
| Exposure estimate | 0.0347 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.000629 |
| Assessment method | EASY TRA v4.2, ECETOC TRA, Consumer |
| | Consumer - inhalation, long-term - systemic |
| Exposure estimate | 0.0594 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.006316 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org | /tra |

| Contributing exposure scenario | | |
|----------------------------------|---|--|
| Use descriptors covered | PC8_1, PC35_1: Subcategory: Laundry and dish washing products | |
| Operational conditions | | |
| | ammonium chloride | |
| Concentration of the substance | Content: >= 0 % - <= 1 % | |
| | | |
| Vapour pressure of the substance | 130 Pa | |
| during use | | |

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| Process temperature | 20 °C |
|---|--|
| Duration and Frequency of activity | Exposure duration: 0.75 min |
| | Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | Application duration: 0.3 min |
| Daration and Frequency of activity | Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | 104 uses per year |
| Room size | 1 m3 |
| Ventilation rate per hour | 2 |
| Temperature (Application) | 60 °C |
| body weight | 65 kg |
| Uptake fraction dermal | 100 % |
| | Amount per use 19 g Relevant for dermal exposure |
| | estimates |
| Release area | 20 cm ² |
| | Release area is constant |
| Release duration | 0.3 min |
| | Relevant for inhalative exposure estimates |
| Exposure estimate and reference to | its source |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Dermal model: instant |
| Assessment method | application, Uptake model: Uptake fraction |
| | Consumer - dermal, long-term - systemic |
| Exposure estimate | 0.8329 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.015088 |
| | The calculation is based on the internal chronic dose. |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Inhalation model: |
| Assessment method | exposure to vapour - evaporation |
| | Consumer - inhalation, long-term - systemic |
| Exposure estimate | 0.0001 mg/m ³ |
| Risk Characterization Ratio (RCR) | 0.000001 |
| | The exposure calculation is based on the mean |
| | concentration per year. |
| Guidance to Downstream Users | |
| For scaling see: http://www.rivm.nl/en/ | /healthanddisease/productsafety/ConsExpo.jsp |

| Contributing exposure scenario | |
|---|---|
| Use descriptors covered | PC8_1, PC35_1: Subcategory: Laundry and dish washing products |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 6 % |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | Exposure duration: 60 min |

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| | Relevant for inhalative exposure estimates |
|--|---|
| Duration and Frequency of activity | Application duration: 16 min |
| | Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | 426 uses per year |
| Room size | 15 m3 |
| Ventilation rate per hour | 2.5 |
| Temperature (Application) | 20 °C |
| body weight | 65 kg |
| Uptake fraction dermal | 100 % |
| | Amount per use 8.6 g Relevant for dermal exposure |
| | estimates |
| Release area | 1500 cm ² |
| | Release area is constant |
| Release duration | 16 min |
| | Relevant for inhalative exposure estimates |
| Exposure estimate and reference to | |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Dermal model: instant |
| | application, Uptake model: Uptake fraction Consumer - dermal, long-term - systemic |
| Evenante estimate | |
| Exposure estimate Risk Characterization Ratio (RCR) | 9.2652 mg/kg bw/day 0.167847 |
| RISK Characterization Ratio (RCR) | The calculation is based on the internal chronic dose. |
| | EASY TRA v4.2, ConsExpo v4.1, Inhalation model: |
| Assessment method | exposure to vapour - evaporation |
| | Consumer - inhalation, long-term - systemic |
| Exposure estimate | 0.056 mg/m ³ |
| Risk Characterization Ratio (RCR) | 0.005962 |
| The state of the s | The exposure calculation is based on the mean |
| | concentration per year. |
| Guidance to Downstream Users | 1 2 7 2 2 |
| For scaling see: http://www.rivm.nl/en/ | /healthanddisease/productsafety/ConsExpo.jsp |

| Contributing exposure scenario | |
|---|--|
| Use descriptors covered | PC39: Cosmetics, personal care products. In accordance to the Article 14 (5b) of the REACh Regulation (EC) No 1907/2006, exposure estimation and risk characterisation needs not to be performed for end uses in cosmetic products within the scope of Directive EC 1223/2009. |
| Operational conditions | |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |

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17. Short title of exposure scenario

Use in Metal surface treatment, Consumer applications C; C; ERC8b, ERC8e; PC14, PC38

Control of exposure and risk management measures

| 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. |
| Operational conditions | · |

| 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. |
| Operational conditions | |

| Contributing exposure scenario | |
|---|---|
| Use descriptors covered | PC14: Metal surface treatment products, including galvanic and electroplating products. |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 100 % |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 240 uses per year |
| Exposure estimate and reference to its source | |
| Assessment method | EASY TRA v4.2, Other consideration (non-standard tool) |
| | Consumer - dermal, long-term - systemic |
| Exposure estimate | 2.8 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.050725 |
| Assessment method | EASY TRA v4.2, Other consideration (non-standard tool) |
| | Consumer - inhalation, long-term - systemic |
| Exposure estimate | 5 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.531915 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/t | ra |

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| Contributing exposure scenario | |
|---|--|
| Use descriptors covered | PC38: Welding and soldering products, flux products. |
| Operational conditions | |
| | ammonium chloride |
| Concentration of the substance | Content: >= 0 % - <= 100 % |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | Exposure duration: 4 h 240 uses per year |
| Exposure estimate and reference to its source | |
| Assessment method | EASY TRA v4.2, Other consideration (non-standard tool) |
| | Consumer - dermal, long-term - systemic |
| Exposure estimate | 0.3 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.005435 |
| Assessment method | EASY TRA v4.2, Other consideration (non-standard tool) |
| | Consumer - inhalation, long-term - systemic |
| Exposure estimate | 6 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.638298 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/tra | |

18. Short title of exposure scenario

Use in/as Fertilizers, Consumer applications C; C; ERC8b, ERC8e; PC12, PC27

Control of exposure and risk management measures

| 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. |
| Operational conditions | |

| 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. |
| Operational conditions | |

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| Contributing exposure scenario | |
|---|---|
| Use descriptors covered | PC12: Fertilizers. |
| Operational conditions | |
| | ammonium chloride |
| Concentration of the substance | Content: >= 0 % - <= 35 % |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 12 uses per year |
| Exposed skin area | Both hands (820 cm ²) |
| Uptake fraction dermal | 100 % |
| Uptake fraction oral | 100 % |
| Exposure estimate and reference to its source | |
| Assessment method | EASY TRA v4.2, ECETOC TRA, Consumer |
| | Consumer - dermal, long-term - systemic |
| Exposure estimate | 2.0008 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.036247 |
| Assessment method | EASY TRA v4.2, ECETOC TRA, Consumer |
| | Consumer - oral, long-term - systemic |
| Exposure estimate | 0.42 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.007609 |
| Guidance to Downstream Users | |
| For scaling see: http://www.ecetoc.org/tra | |

| Contributing exposure scenario | |
|---|--|
| Use descriptors covered | PC27: Plant Protection products. |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 35 % |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | 1 uses per month |
| Duration and Frequency of activity | 1 uses per month |
| body weight | 65 kg |
| Uptake fraction dermal | 100 % |
| Uptake fraction oral | 100 % |

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BASF Safety data sheet according to Regulation (EC) No. 1907/2006 as amended from time to time.

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| | Amount per use 8.6 g Relevant for dermal exposure |
|--|--|
| | estimates |
| | Amount ingested 0.3 g Relevant for oral exposure |
| | estimates |
| Exposure estimate and reference to | its source |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Dermal model: instant |
| Assessment method | application, Uptake model: Uptake fraction |
| | Consumer - dermal, long-term - systemic |
| Exposure estimate | 1.5436 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.027964 |
| | The calculation is based on the internal chronic dose. |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Oral model: direct intake, |
| Assessment method | Uptake model: Uptake fraction |
| | Consumer - oral, long-term - systemic |
| Exposure estimate | 0.0538 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.000975 |
| | The calculation is based on the internal chronic dose. |
| Guidance to Downstream Users | |
| For scaling see: http://www.rivm.nl/en/h | nealthanddisease/productsafety/ConsExpo.jsp |

* * * * * * * * * * * * * * * * * *

19. Short title of exposure scenario

Use in Adhesives, Use in Surface treatment products, Wood treatment, Use in Wood articles, Consumer applications

C; C; ERC8c, ERC8f; PC1

Control of exposure and risk management measures

| 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. |
| Operational conditions | |

| Contributing exposure scenario | |
|--------------------------------|--|
| Use descriptors covered | ERC8f: Widespread use leading to inclusion into/onto article (outdoor) As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed. |
| Operational conditions | |

| Contributing exposure scenario | |
|--------------------------------|--|
| Use descriptors covered | PC1_2: Subcategory: Glues DIY-use (carpet glue, tile glue, |

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| | wood parquet glue) |
|---|--|
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 20 % |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | Exposure duration: 10 min Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | Application duration: 10 min Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | < 1 uses per year |
| Room size | 1 m3 |
| Ventilation rate per hour | 0.6 |
| Temperature (Application) | 20 °C |
| body weight | 65 kg |
| Uptake fraction dermal | 100 % |
| | Amount per use 0.2 g Relevant for dermal exposure estimates |
| Release area | 320 cm ² |
| | Release area is constant |
| Release duration | 10 min |
| | Relevant for inhalative exposure estimates |
| Exposure estimate and reference to | |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Dermal model: instant application, Uptake model: Uptake fraction |
| | Consumer - dermal, long-term - systemic |
| Exposure estimate | 0.0006 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.000011 |
| | The calculation is based on the internal chronic dose. |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Inhalation model: |
| ASSESSITE III THE HIDU | exposure to vapour - evaporation |
| | Consumer - inhalation, long-term - systemic |
| Exposure estimate | 0.0194 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.002064 |
| | The exposure calculation is based on the mean |
| | concentration per year. |
| Guidance to Downstream Users | |
| For scaling see: http://www.rivm.nl/en/ | nealthanddisease/productsafety/ConsExpo.jsp |

| Contributing exposure scenario | |
|--------------------------------|---|
| Use descriptors covered | PC1_2: Subcategory: Glues DIY-use (carpet glue, tile glue, wood parquet glue) |
| Operational conditions | |

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| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 30 % |
|---|---|
| Concomitation of the basicanes | Somethic 2 = 0 /0 1 = 00 /0 |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | Exposure duration: 75 min Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | Application duration: 75 min Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | < 1 uses per year |
| Room size | 58 m3 |
| Ventilation rate per hour | 0.5 |
| Temperature (Application) | 20 °C |
| body weight | 65 kg |
| Uptake fraction dermal | 100 % |
| Release area | 40000 cm ² |
| | Release area is constant |
| Release duration | 75 min |
| | Relevant for inhalative exposure estimates |
| Contact rate | 30 mg/min |
| Release duration | 75 min |
| | Relevant for dermal exposure estimates |
| Exposure estimate and reference to | |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Dermal model: constant |
| Assessment method | application rate, Uptake model: Uptake fraction |
| | Consumer - dermal, long-term - systemic |
| Exposure estimate | 0.0071 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.000129 |
| <u> </u> | The calculation is based on the internal chronic dose. |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Inhalation model: |
| Assessment method | exposure to vapour - evaporation |
| | Consumer - inhalation, long-term - systemic |
| Exposure estimate | 0.0978 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.010405 |
| | The exposure calculation is based on the mean |
| | concentration per year. |
| Guidance to Downstream Users | - |
| For scaling see: http://www.rivm.nl/en/h | ealthanddisease/productsafety/ConsExpo.jsp |

| Contributing exposure scenario | |
|--------------------------------|---|
| Use descriptors covered | PC1_2: Subcategory: Glues DIY-use (carpet glue, tile glue, wood parquet glue) |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 30 % |

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| | 1 |
|---|--|
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | Exposure duration: 240 min Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | Application duration: 240 min Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | < 1 uses per year |
| Room size | 58 m3 |
| Ventilation rate per hour | 0.5 |
| Temperature (Application) | 20 °C |
| body weight | 65 kg |
| Uptake fraction dermal | 100 % |
| | Amount per use 0.5 g Relevant for dermal exposure estimates |
| Release area | 10000 cm ² |
| | Release area is constant |
| Release duration | 240 min |
| | Relevant for inhalative exposure estimates |
| Exposure estimate and reference to | |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Dermal model: instant application, Uptake model: Uptake fraction |
| | Consumer - dermal, long-term - systemic |
| Exposure estimate | 0.0016 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.000029 |
| | The calculation is based on the internal chronic dose. |
| | EASY TRA v4.2, ConsExpo v4.1, Inhalation model: |
| Assessment method | exposure to vapour - evaporation |
| | Consumer - inhalation, long-term - systemic |
| Exposure estimate | 0.1408 mg/m ³ |
| Risk Characterization Ratio (RCR) | 0.014979 |
| | The exposure calculation is based on the mean |
| | concentration per year. |
| Guidance to Downstream Users | |
| | nealthanddisease/productsafety/ConsExpo.jsp |

| Contributing exposure scenario | | |
|----------------------------------|---|--|
| Use descriptors covered | PC1_2: Subcategory: Glues DIY-use (carpet glue, tile glue, wood parquet glue) | |
| Operational conditions | | |
| | ammonium chloride | |
| Concentration of the substance | Content: >= 0 % - <= 20 % | |
| Vapour pressure of the substance | 130 Pa | |
| during use | | |

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| Process temperature | 20 °C |
|--|--|
| Duration and Frequency of activity | Exposure duration: 480 min Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | Application duration: 480 min Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | < 1 uses per year |
| Room size | 58 m3 |
| Ventilation rate per hour | 0.5 |
| Temperature (Application) | 20 °C |
| body weight | 65 kg |
| Uptake fraction dermal | 100 % |
| Release area | 10000 cm ² |
| | Release area is constant |
| Release duration | 480 min |
| | Relevant for inhalative exposure estimates |
| Contact rate | 30 mg/min |
| Release duration | 480 min |
| | Relevant for dermal exposure estimates |
| Exposure estimate and reference to | its source |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Dermal model: constant application rate, Uptake model: Uptake fraction |
| | Consumer - dermal, long-term - systemic |
| Exposure estimate | 0.0152 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.000275 |
| | The calculation is based on the internal chronic dose. |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Inhalation model: |
| Assessment method | exposure to vapour - evaporation |
| | Consumer - inhalation, long-term - systemic |
| Exposure estimate | 0.3041 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.032355 |
| | The exposure calculation is based on the mean concentration per year. |
| Guidance to Downstream Users | |
| For scaling see: http://www.rivm.nl/en/l | nealthanddisease/productsafety/ConsExpo.jsp |

| Contributing exposure scenario | |
|---|---|
| Use descriptors covered | PC1_2: Subcategory: Glues DIY-use (carpet glue, tile glue, wood parquet glue) |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 30 % |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |

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| Duration and Frequency of activity | Exposure duration: 240 min |
|--|--|
| | Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | Application duration: 30 min |
| 2 2 2 2 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 | Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | 2 uses per year |
| Room size | 20 m3 |
| Ventilation rate per hour | 0.6 |
| Temperature (Application) | 20 °C |
| body weight | 65 kg |
| Uptake fraction dermal | 100 % |
| | Amount per use 0.25 g Relevant for dermal exposure estimates |
| Release area | 10000 cm ² |
| Troibado area | Release area increases over time |
| Release duration | 30 min |
| | Relevant for inhalative exposure estimates |
| Exposure estimate and reference to | |
| • | EASY TRA v4.2, ConsExpo v4.1, Dermal model: instant |
| Assessment method | application, Uptake model: Uptake fraction |
| | Consumer - dermal, long-term - systemic |
| Exposure estimate | 0.0063 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.000115 |
| | The calculation is based on the internal chronic dose. |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Inhalation model: |
| Assessment method | exposure to vapour - evaporation |
| | Consumer - inhalation, long-term - systemic |
| Exposure estimate | 1.2723 mg/m ³ |
| Risk Characterization Ratio (RCR) | 0.135346 |
| | The exposure calculation is based on the mean |
| | concentration per year. |
| Guidance to Downstream Users | |
| For scaling see: http://www.rivm.nl/en/h | ealthanddisease/productsafety/ConsExpo.jsp |

| Contributing exposure scenario | |
|---|--|
| Use descriptors covered | PC1_1: Subcategory: Glues, hobby use |
| Operational conditions | |
| | ammonium chloride |
| Concentration of the substance | Content: >= 0 % - <= 30 % |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | Exposure duration: 240 min |
| | Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | Application duration: 5 min |
| | Relevant for inhalative exposure estimates |

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| Duration and Frequency of activity | 12 uses per year |
|--|--|
| Room size | 20 m3 |
| Ventilation rate per hour | 0.6 |
| Temperature (Application) | 20 °C |
| body weight | 65 kg |
| Uptake fraction dermal | 100 % |
| | Amount per use 0.025 g Relevant for dermal exposure |
| | estimates |
| Release area | 2 cm ² |
| | Release area increases over time |
| Release duration | 5 min |
| | Relevant for inhalative exposure estimates |
| Exposure estimate and reference to | its source |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Dermal model: instant |
| Assessment method | application, Uptake model: Uptake fraction |
| | Consumer - dermal, long-term - systemic |
| Exposure estimate | 0.0038 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.000069 |
| | The calculation is based on the internal chronic dose. |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Inhalation model: |
| Assessment method | exposure to vapour - evaporation |
| | Consumer - inhalation, long-term - systemic |
| Exposure estimate | 0.0155 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.001647 |
| | The exposure calculation is based on the mean |
| | concentration per year. |
| Guidance to Downstream Users | |
| For scaling see: http://www.rivm.nl/en/h | ealthanddisease/productsafety/ConsExpo.jsp |

| Contributing exposure scenario | |
|---|--|
| Use descriptors covered | PC1_1: Subcategory: Glues, hobby use |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 30 % |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | Exposure duration: 5 min Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | Application duration: 5 min Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | 3 uses per year |
| Room size | 1 m3 |
| Ventilation rate per hour | 0.6 |

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| Temperature (Application) | 20 °C |
|--|--|
| body weight | 65 kg |
| Uptake fraction dermal | 100 % |
| | Amount per use 0.05 g Relevant for dermal exposure estimates |
| Release area | 20 cm ² |
| | Release area is constant |
| Release duration | 5 min |
| | Relevant for inhalative exposure estimates |
| Exposure estimate and reference to | its source |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Dermal model: instant application, Uptake model: Uptake fraction |
| | Consumer - dermal, long-term - systemic |
| Exposure estimate | 0.0019 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.000034 |
| | The calculation is based on the internal chronic dose. |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Inhalation model: |
| Assessment method | exposure to vapour - evaporation |
| | Consumer - inhalation, long-term - systemic |
| Exposure estimate | 0.0763 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.008118 |
| | The exposure calculation is based on the mean |
| | concentration per year. |
| Guidance to Downstream Users | |
| For scaling see: http://www.rivm.nl/en/h | nealthanddisease/productsafety/ConsExpo.jsp |

| Contributing exposure scenario | |
|---|---|
| Use descriptors covered | PC1_1: Subcategory: Glues, hobby use |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 30 % |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | Exposure duration: 240 min Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | Application duration: 30 min Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | 3 uses per year |
| Room size | 20 m3 |
| Ventilation rate per hour | 0.6 |
| Temperature (Application) | 20 °C |
| body weight | 65 kg |
| Uptake fraction dermal | 100 % |

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| | Amount per use 0.1 g Relevant for dermal exposure |
|--|--|
| | estimates |
| Release area | 500 cm ² |
| | Release area increases over time |
| Release duration | 30 min |
| | Relevant for inhalative exposure estimates |
| Exposure estimate and reference to | its source |
| • | EASY TRA v4.2, ConsExpo v4.1, Dermal model: instant |
| Assessment method | application, Uptake model: Uptake fraction |
| | Consumer - dermal, long-term - systemic |
| Exposure estimate | 0.0038 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.000069 |
| | The calculation is based on the internal chronic dose. |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Inhalation model: |
| Assessmentmethod | exposure to vapour - evaporation |
| | Consumer - inhalation, long-term - systemic |
| Exposure estimate | 0.153 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.01628 |
| | The exposure calculation is based on the mean |
| | concentration per year. |
| Guidance to Downstream Users | |
| For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp | |

| Contributing exposure scenario | |
|---|---|
| Use descriptors covered | PC1_1: Subcategory: Glues, hobby use |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 30 % |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | Exposure duration: 45 min Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | Application duration: 30 min Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | 3 uses per year |
| Room size | 10 m3 |
| Ventilation rate per hour | 2 |
| Temperature (Application) | 20 °C |
| body weight | 65 kg |
| Uptake fraction dermal | 100 % |
| Release area | 250 cm ² |
| | Release area increases over time |
| Release duration | 30 min |

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| | Relevant for inhalative exposure estimates |
|--|--|
| Contact rate | 50 mg/min |
| Release duration | 30 min |
| | Relevant for dermal exposure estimates |
| Exposure estimate and reference to | its source |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Dermal model: constant application rate, Uptake model: Uptake fraction |
| | Consumer - dermal, long-term - systemic |
| Exposure estimate | 0.0569 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.001031 |
| | The calculation is based on the internal chronic dose. |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Inhalation model: |
| Assessment method | exposure to vapour - evaporation |
| | Consumer - inhalation, long-term - systemic |
| Exposure estimate | 0.2373 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.025246 |
| | The exposure calculation is based on the mean |
| | concentration per year. |
| Guidance to Downstream Users | |
| For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp | |

| Contributing exposure scenario | |
|---|---|
| Use descriptors covered | PC1_1: Subcategory: Glues, hobby use |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 30 % |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | Exposure duration: 240 min Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | Application duration: 30 min Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | 1 uses per year |
| Room size | 20 m3 |
| Ventilation rate per hour | 0.6 |
| Temperature (Application) | 20 °C |
| body weight | 65 kg |
| Uptake fraction dermal | 100 % |
| | Amount per use 0.5 g Relevant for dermal exposure estimates |
| Release area | 15000 cm ² |
| | Release area increases over time |
| Release duration | 30 min |
| | Relevant for inhalative exposure estimates |

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| Exposure estimate and reference to its source | |
|--|--|
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Dermal model: instant |
| | application, Uptake model: Uptake fraction |
| | Consumer - dermal, long-term - systemic |
| Exposure estimate | 0.0063 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.000115 |
| | The calculation is based on the internal chronic dose. |
| A concern and months of | EASY TRA v4.2, ConsExpo v4.1, Inhalation model: |
| Assessment method | exposure to vapour - evaporation |
| | Consumer - inhalation, long-term - systemic |
| Exposure estimate | 0.9541 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.101499 |
| | The exposure calculation is based on the mean |
| | concentration per year. |
| Guidance to Downstream Users | |
| For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp | |

| Contributing exposure scenario | |
|---|--|
| Use descriptors covered | PC1_1: Subcategory: Glues, hobby use |
| Operational conditions | |
| Concentration of the substance | ammonium chloride Content: >= 0 % - <= 5 % |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | Exposure duration: 240 min Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | Application duration: 10 min Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | 52 uses per year |
| Room size | 20 m3 |
| Ventilation rate per hour | 0.6 |
| Temperature (Application) | 20 °C |
| body weight | 65 kg |
| Uptake fraction dermal | 100 % |
| | Amount per use 0.08 g Relevant for dermal exposure estimates |
| Release area | 200 cm ² |
| | Release area increases over time |
| Release duration | 10 min |
| - | Relevant for inhalative exposure estimates |
| Exposure estimate and reference to its source | |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Dermal model: instant application, Uptake model: Uptake fraction |
| | Consumer - dermal, long-term - systemic |

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| Exposure estimate | 0.0088 mg/kg bw/day |
|--|--|
| Risk Characterization Ratio (RCR) | 0.000159 |
| | The calculation is based on the internal chronic dose. |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Inhalation model: |
| | exposure to vapour - evaporation |
| | Consumer - inhalation, long-term - systemic |
| Exposure estimate | 1.411 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.150111 |
| | The exposure calculation is based on the mean |
| | concentration on the day of exposure. |
| Guidance to Downstream Users | |
| For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp | |

| Use descriptors covered PC1_1: Subcategory: Glues, hobby use | |
|--|--------------|
| Operational conditions Concentration of the substance Vapour pressure of the substance ammonium chloride Content: >= 0 % - <= 5 % Vapour pressure of the substance 130 Pa | |
| Concentration of the substance ammonium chloride Content: >= 0 % - <= 5 % Vapour pressure of the substance 130 Pa | |
| Concentration of the substance Content: >= 0 % - <= 5 % Vapour pressure of the substance 130 Pa | |
| | |
| ~~····g ~~~ | |
| Process temperature 20 °C | |
| Duration and Fraguency of activity Exposure duration: 240 min | |
| Duration and Frequency of activity Relevant for inhalative exposure estimates | |
| Duration and Frequency of activity Application duration: 20 min | |
| Relevant for innalative exposure estimates | |
| Duration and Frequency of activity 52 uses per year | |
| Room size 20 m3 | |
| Ventilation rate per hour 0.6 | |
| Temperature (Application) 20 °C | |
| body weight 65 kg | |
| Uptake fraction dermal | |
| Amount per use 0.08 g Relevant for dermal exposure estimates | , |
| Release area 400 cm ² | |
| Release area increases over time | |
| Release duration 20 min | |
| Relevant for inhalative exposure estimates | |
| Exposure estimate and reference to its source | |
| FASV TRA v// 2 ConsEvno v// 1 Dermal model: inst | ant |
| Assessment method application, Uptake model: Uptake fraction | |
| Consumer - dermal, long-term - systemic | |
| Exposure estimate 0.0088 mg/kg bw/day | |
| Risk Characterization Ratio (RCR) 0.000159 | |
| The calculation is based on the internal chronic dose | |
| Assessment method EASY TRA v4.2, ConsExpo v4.1, Inhalation model: | |

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| | exposure to vapour - evaporation |
|--|---|
| | Consumer - inhalation, long-term - systemic |
| Exposure estimate | 1.5604 mg/m³ |
| Risk Characterization Ratio (RCR) | 0.166004 |
| | The exposure calculation is based on the mean |
| | concentration on the day of exposure. |
| Guidance to Downstream Users | |
| For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp | |

| Contributing exposure scenario | |
|---|--|
| Use descriptors covered | PC1_3: Subcategory: Glue from spray |
| Operational conditions | |
| | ammonium chloride |
| Concentration of the substance | Content: >= 0 % - <= 10 % |
| Vapour pressure of the substance during use | 130 Pa |
| Process temperature | 20 °C |
| Duration and Frequency of activity | Exposure duration: 240 min |
| Duration and Frequency of activity | Relevant for inhalative exposure estimates |
| Duration and Frequency of activity | 12 uses per year |
| Room size | 20 m3 |
| Ventilation rate per hour | 0.6 |
| body weight | 65 kg |
| Uptake fraction dermal | 100 % |
| Spray duration | 169.8 sec |
| Contact rate | 100 mg/min |
| Release duration | 2.83 min |
| | Relevant for dermal exposure estimates |
| Risk Management Measures | · |
| Consumer Measures | Ensure spraying away from persons. |
| Exposure estimate and reference to | |
| A concern and models and | EASY TRA v4.2, ConsExpo v4.1, Dermal model: constant |
| Assessment method | application rate, Uptake model: Uptake fraction |
| | Consumer - dermal, long-term - systemic |
| Exposure estimate | 0.0143 mg/kg bw/day |
| Risk Characterization Ratio (RCR) | 0.000259 |
| | The calculation is based on the internal chronic dose. |
| Assessment method | EASY TRA v4.2, ConsExpo v4.1, Inhalation model: |
| | Exposure to spray/dust |
| | Consumer - inhalation, long-term - systemic |
| Exposure estimate | 0.1799 mg/m ³ |
| Risk Characterization Ratio (RCR) | 0.019135 |
| | The exposure calculation is based on the mean |
| | concentration per year. |
| Guidance to Downstream Users | |

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For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp

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20. Short title of exposure scenario

Use in Batteries, Consumer applications C; C; ERC9a, ERC9b; PC42

Control of exposure and risk management measures

| Contributing exposure scenario | |
|--------------------------------|--|
| Use descriptors covered | ERC9a: Widespread use of functional fluid (indoor) As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed. |
| Operational conditions | |

| Contributing exposure scenario | |
|--------------------------------|---|
| Use descriptors covered | ERC9b: Widespread use of functional fluid (outdoor) As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed. |
| Operational conditions | |

| Contributing exposure scenario | |
|----------------------------------|---|
| Use descriptors covered | PC42: Electrolytes for batteries Use in closed system is assumed Exposure of the consumer can be ruled out. |
| Operational conditions | |
| Vapour pressure of the substance | 130 Pa |
| during use | |
| Process temperature | 20 °C |

* * * * * * * * * * * * * * * *

21. Short title of exposure scenario

Use in Batteries, Service life of articles, Consumer applications C; C; ERC10a, ERC11a, ERC12a; AC3

Control of exposure and risk management measures

| Contributing exposure scenario | |
|--------------------------------|---|
| | ERC10a: Widespread use of articles with low release |
| Use descriptors covered | (outdoor) |
| | As no environmental hazard was identified no |

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| | environmental-related exposure assessment and risk characterization was performed. |
|------------------------|--|
| Operational conditions | |

| Contributing exposure scenario | |
|--------------------------------|--|
| Use descriptors covered | ERC11a: Widespread use of articles with low release (indoor) As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed. |
| Operational conditions | <u>'</u> |

| Contributing exposure scenario | |
|--------------------------------|---|
| Use descriptors covered | ERC12a: Processing of articles at industrial sites with low release As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed. |
| Operational conditions | · |

| Contributing exposure scenario | | |
|---|---|--|
| Use descriptors covered | AC3: Electrical batteries and accumulators Use in closed system is assumed Exposure of the consumer can be ruled out. | |
| Operational conditions | | |
| Vapour pressure of the substance during use | 130 Pa | |
| Process temperature | 20 °C | |

* * * * * * * * * * * * * * * *

22. Short title of exposure scenario

Use in pharmaceuticals, Use as Additive, Dietary intake, Use in cosmetics, Use in/as Flavouring agent(s), Consumer applications

C; C; ERC8a, ERC8b, ERC8e; PC20, PC29, PC39

Control of exposure and risk management measures

| 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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Operational conditions

| 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. |
| Operational conditions | · |

| 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. |
| Operational conditions | • |

| Contributing exposure scenario | | |
|---|--|--|
| Use descriptors covered | PC20: Products such as ph-regulators, flocculants, precipitants, neutralisation agents. In accordance to Article 2 (5a and 5b i and 5b ii) of the REACH Regulation (EC) No 1907/2006, use in medicinal products for humans as well as use as a food additive and as a flavoring agent is not subject to registration and is covered within the scopes of Directive 2001/83/EC, Directive 89/107/EEC, and Decision 1999/217/EC. | |
| Operational conditions | | |
| Vapour pressure of the substance during use | 130 Pa | |
| Process temperature | 20 °C | |

| Contributing exposure scenario | | |
|---|---|--|
| Use descriptors covered | PC29: Pharmaceuticals. In accordance to Article 2 (5a and 5b i and 5b ii) of the REACH Regulation (EC) No 1907/2006, use in medicinal products for humans as well as use as a food additive and as a flavoring agent is not subject to registration and is covered within the scopes of Directive 2001/83/EC, Directive 89/107/EEC, and Decision 1999/217/EC. | |
| Operational conditions | | |
| Vapour pressure of the substance during use | 130 Pa | |
| Process temperature | 20 °C | |

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| Contributing exposure scenario | | |
|---|--|--|
| Use descriptors covered | PC39: Cosmetics, personal care products. In accordance to the Article 14 (5b) of the REACh Regulation (EC) No 1907/2006, exposure estimation and risk characterisation needs not to be performed for end uses in cosmetic products within the scope of Directive EC 1223/2009. | |
| Operational conditions | | |
| Vapour pressure of the substance during use | 130 Pa | |
| Process temperature | 20 °C | |