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Safety data sheet

BASF safety data sheet. This is a translation of the country-specific safety data sheet into a language other than that required by law. This document does not replace the safety data sheet provided according to Regulation (EC) No 1907/2006.
Date / Revised: 06.01.2023 Version: 1.0
Date previous version: not applicable Previous version: none
Date / First version: 06.01.2023
Product: **Ferric Chloride Anhydrous**
(ID no. 30042332/SDS_GEN_PL/EN)
Date of print 17.10.2025

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

1.1. Product identifier

Ferric Chloride Anhydrous

Chemical name: iron trichloride
CAS Number: 7705-08-0

REACH registration number: 01-2119497998-05-0002

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

Relevant identified uses: Chemical
Recommended use: Intermediate, process chemical, catalyst

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 Polska Sp. z o.o.
Al. Jerozolimskie 142b
02-305 Warszawa
POLAND

Telephone: +48 22 5709-999 (8:00 - 17:00)
E-mail address: product-safety-poland@basf.com

1.4. Emergency telephone number

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

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

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

Acute Tox. 4 (oral)	H302 Harmful if swallowed.
Skin Corr./Irrit. 2	H315 Causes skin irritation.
Eye Dam./Irrit. 1	H318 Causes serious eye damage.
Skin Sens. 1	H317 May cause an allergic skin reaction.

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:

Danger

Hazard Statement:

H318	Causes serious eye damage.
H315	Causes skin irritation.
H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.

Precautionary Statements (Prevention):

P280	Wear protective gloves and eye protection or face protection.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P272	Contaminated work clothing should not be allowed out of the workplace.
P270	Do not eat, drink or smoke when using this product.
P264	Wash contaminated body parts thoroughly after handling.

Precautionary Statements (Response):

P310	Immediately call a POISON CENTER or physician.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P303 + P352	IF ON SKIN (or hair): Wash with plenty of soap and water.
P301	IF SWALLOWED:
P330	Rinse mouth
P332 + P313	If skin irritation occurs: Get medical attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.

Precautionary Statements (Disposal):

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

Labeling of special preparations (GHS):

EUH208: May produce an allergic reaction. Contains: nickel dichloride

Hazard determining component(s) for labelling: Iron trichloride, nickel dichloride

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.
Corrodes metals in the presence of water or moisture.
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.

SECTION 3: Composition/Information on Ingredients

3.1. Substances

Chemical nature

FeCl3

Iron trichloride

	Acute Tox. 4 (oral)
CAS Number: 7705-08-0	Skin Corr./Irrit. 2
EC-Number: 231-729-4	Eye Dam./Irrit. 1
	H318, H315, H302

technical

Regulatory relevant ingredients

Iron trichloride

Content (W/W): >= 98 % - <= 100 %	Acute Tox. 4 (oral)
CAS Number: 7705-08-0	Skin Corr./Irrit. 2
EC-Number: 231-729-4	Eye Dam./Irrit. 1
	H318, H315, H302

Chromium trichloride

Content (W/W): >= 0 % - < 0,15 %	Acute Tox. 4 (oral)
CAS Number: 10025-73-7	Skin Sens. 1
EC-Number: 233-038-3	Aquatic Chronic 2
	H302, H317, H411

zinc chloride

Content (W/W): >= 0 % - < 0,15 % CAS Number: 7646-85-7 EC-Number: 231-592-0 INDEX-Number: 030-003-00-2	Acute Tox. 4 (oral) Skin Corr./Irrit. 1B Eye Dam./Irrit. 1 Aquatic Acute 1 Aquatic Chronic 1 M-factor acute: 1 M-factor chronic: 1 H302, H314, H400, H410 Specific concentration limit: STOT SE 3, irr. to respiratory syst.: >= 5 %

nickel dichloride

Content (W/W): >= 0 % - < 0,1 % CAS Number: 7718-54-9 EC-Number: 231-743-0	Acute Tox. 3 (Inhalation - dust) Acute Tox. 3 (oral) Skin Corr./Irrit. 2 Resp. Sens. 1 Skin Sens. 1 Muta. 2 Carc. 1A (by inhalation) Repr. 1B (unborn child) STOT RE (Respiratory system) 1 (by inhalation) Aquatic Acute 1 Aquatic Chronic 1 M-factor acute: 10 M-factor chronic: 1 H315, H334, H317, H341, H350i, H360D, H301 + H331, H372, H400, H410 Specific concentration limit: STOT RE 2: 0,1 - < 1 % STOT RE 1: >= 1 % Skin Sens. 1: >= 0,01 % Skin Corr./Irrit. 2: >= 20 %

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.

3.2. Mixtures

Not applicable

SECTION 4: First-Aid Measures

4.1. Description of first aid measures

If the patient is likely to become unconscious, place and transport in stable sideways position (recovery position). Immediately remove contaminated clothing.

If inhaled:
Keep patient calm, remove to fresh air, seek medical attention.

On skin contact:
Immediately wash thoroughly with soap and water, seek medical attention.

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.

irritates the eyes and respiratory tract, skin irritation, allergic symptoms

Hazards: No hazard is expected under intended use and appropriate handling.

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:
dry powder

Unsuitable extinguishing media for safety reasons:
water

5.2. Special hazards arising from the substance or mixture

Temperature limit: > 200 °C
Endangering substances: chlorine
Advice: The substances/groups of substances mentioned can be released in case of fire.

5.3. Advice for fire-fighters

Special protective equipment:
Wear a self-contained breathing apparatus.

Further information:
Contaminated extinguishing water must be disposed of in accordance with official regulations. Avoid direct contact with water. Product itself is non-combustible; fire extinguishing method of surrounding areas must be considered.

SECTION 6: Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures

Avoid contact with the skin, eyes and clothing. Avoid dust formation.

6.2. Environmental precautions

Due to the pH-value of the product, neutralization is generally required before discharging sewage into treatment plants.

6.3. Methods and material for containment and cleaning up

For small amounts: Neutralize with lime.
For large amounts: Pick up in dry form. Dispose of contaminated material as prescribed.
For residues: Rinse away with water.

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

Keep container tightly sealed. Processing machines must be fitted with local exhaust ventilation.

Protection against fire and explosion:
The substance/product is non-combustible. Product is not explosive.

7.2. Conditions for safe storage, including any incompatibilities

Suitable materials for containers: High density polyethylene (HDPE), Low density polyethylene (LDPE), Polyester resin, glass reinforced (Palatal A410), enamelled, rubberized, Carbon steel (Iron), glass
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.

SECTION 8: Exposure Controls/Personal Protection

8.1. Control parameters

Components with occupational exposure limits

7646-85-7: zinc chloride
TWA value 1 mg/m3 (MAC (PL)), Inhalable fraction
NDSCh value 2 mg/m3 (MAC (PL)), Inhalable fraction
10025-73-7: Chromium trichloride
TWA value 0,5 mg/m3 (MAC (PL))
Measured as: Chromium (Cr)
7718-54-9: nickel dichloride
TWA value 0,25 mg/m3 (MAC (PL))
Measured as: nickel (Ni)
TWA value 0,01 mg/m3 (Directive 2004/37/EC), Respirable fraction
Measured as: nickel (Ni)
The expiration date of this limit: 18 January 2025
TWA value 0,05 mg/m3 (Directive 2004/37/EC), Inhalable fraction
Measured as: nickel (Ni)
The expiration date of this limit: 18 January 2025
TWA value 0,1 mg/m3 (Directive 2004/37/EC), Inhalable fraction
Measured as: nickel (Ni)

PNEC

A PNEC could not be derived as the substance showed no toxic effects in studies performed in the range of its solubility. At the present state of knowledge, no negative ecological effects are expected.

No PNEC oral derived, as accumulation in organisms is not to be expected.

DNEL

worker:
Long-term exposure- systemic effects, dermal: 2,8 mg/kg

worker:
Long- and short-term exposure - systemic effects, Inhalation
No DNELs have been derived.

consumer:
Long-term exposure- systemic effects, dermal: 1,4 mg/kg

consumer:
Long- and short-term exposure - systemic effects, Inhalation
No DNELs have been derived.

consumer:
Long-term exposure- systemic effects, oral: 0,28 mg/kg

consumer:
Short-term exposure - systemic effects, oral: 20 mg/kg

8.2. Exposure controls

Personal protective equipment

Respiratory protection:
Breathing protection if breathable aerosols/dust are formed. Suitable respiratory protection for lower concentrations or short-term effect: Gas filter for gases/vapours of inorganic compounds (e.g. EN 14387 Type B) Suitable respiratory protection for higher concentrations or long-term effect: Self-contained breathing apparatus.

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):
polyvinylchloride (PVC) - 0.7 mm coating thickness
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:
Tightly fitting safety goggles (splash 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

Hands and/or face should be washed before breaks and at the end of the shift. Take off immediately all contaminated clothing.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

State of matter:	solid
Form:	crystalline, powder
Colour:	green to black

Odour:	pungent odour	
Odour threshold:		
	Not determined due to potential health hazard by inhalation.	
Melting point:		
	dropped	
Sublimation temperature:	304 °C (1 bar) Literature data.	
Flammability:	not highly flammable	(Directive 92/69/EEC, 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	
Thermal decomposition:	> 200 °C chlorine	
pH value:	1 (200 g/l, 20 °C)	(OECD Guideline 122)
Viscosity, kinematic:		
	not applicable, the product is a solid	
Viscosity, dynamic:		
	not applicable, the product is a solid	
Solubility in water:	Literature data. 744 g/l (0 °C)	
Solubility (quantitative):		
	480 g/kg (20 °C)	
Partitioning coefficient n-octanol/water (log Kow):	-4 (24 °C)	
Vapour pressure:	1 mbar (20 °C)	
Density:	2,89 g/cm3 (25 °C) Literature data.	
Relative vapour density (air):		
	The product is a non-volatile solid.	

Particle characteristics

Particle size distribution:	3,3 µm	(D10, ISO 13320-1)
	35,3 µm	(D90, ISO 13320-1)
	11,7 µm	(D50, ISO 13320-1)

9.2. Other information

Information with regard to physical hazard classes

Explosives

Explosion hazard:	Based on the chemical structure there is no indication of explosive properties.
Impact sensitivity:	Based on the chemical structure there is no shock-sensitivity.

Oxidizing properties

Fire promoting properties:	not fire-propagating	(UN Test O.1 (oxidizing solids))

Self-heating substances and mixtures

Self heating ability:	It is not a substance capable of spontaneous heating.

Corrosion to metals

Corrodes metals in the presence of water or moisture.

Other safety characteristics

Bulk density:	approx. 1.000 kg/m3	
pKA:	Study scientifically not justified.	
Hygroscopy:	hygroscopic	
Adsorption/water - soil:	Study scientifically not justified.	
Surface tension:	Based on chemical structure, surface activity is not to be expected.	
Angle of repose:	64 °	(trickle test (lab for material testing))
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.

Corrosion to metals: Corrodes metals in the presence of water or moisture.

10.2. Chemical stability

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

10.3. Possibility of hazardous reactions

Develops hydrochloric acid (HCL) on contact with water.

10.4. Conditions to avoid

Avoid moisture.

10.5. Incompatible materials

Substances to avoid:
water, strong bases

10.6. Hazardous decomposition products

Hazardous decomposition products:
hydrogen chloride
metal compounds, Acid fumes, chlorides

SECTION 11: Toxicological Information

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

Acute toxicity

Assessment of acute toxicity:
Harmful if swallowed.

Experimental/calculated data:
LD50 mouse (oral): > 300 - < 630 mg/kg

(by inhalation):Study does not need to be conducted.

LD50 rat (dermal): > 2.000 mg/kg (OECD Guideline 402)
No mortality was observed. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Irritation

Assessment of irritating effects:
Irritating to skin. Risk of serious damage to eyes.

Experimental/calculated data:
Skin corrosion/irritation
rabbit: Irritant. (BASF-Test)
Data refer to a diluted aqueous solution of the substance.

Serious eye damage/irritation

rabbit: irreversible damage (BASF-Test)
Data refer to a diluted aqueous solution of the substance.

Respiratory/Skin sensitization

Information on: nickel dichloride
Assessment of sensitization:
The substance may cause sensitization of the respiratory tract. Sensitization after skin contact possible.

Germ cell mutagenicity

Assessment of mutagenicity:
The substance was not mutagenic in bacteria. The substance was not mutagenic in mammalian cell culture. The substance was not mutagenic in studies with mammals.

Carcinogenicity

Assessment of carcinogenicity:
The whole of the information assessable provides no indication of a carcinogenic effect.

Reproductive toxicity

Assessment of reproduction toxicity:
No reliable data are available concerning reproduction toxicity. The chemical structure does not suggest a specific alert for such an effect.

Developmental toxicity

Assessment of teratogenicity:
No indications of a developmental toxic / teratogenic effect were seen in animal studies.

Specific target organ toxicity (single exposure)

No data available.

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

Assessment of repeated dose toxicity:
The substance may cause damage to the kidney after repeated ingestion of high doses, as shown in animal studies. The substance may cause damage to the liver after repeated ingestion of high doses, as shown in animal studies.

Aspiration hazard

Study does not need to be conducted.

Interactive effects

No data available.

11.2. Information on other hazards

Endocrine disrupting properties

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

SECTION 12: Ecological Information

12.1. Toxicity

Assessment of aquatic toxicity:
At the present state of knowledge, no negative ecological effects are expected. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.
The product gives rise to pH shifts.

Toxicity to fish:
Study scientifically not justified.

Aquatic invertebrates:
Study scientifically not justified.

Microorganisms/Effect on activated sludge:
EC50 (5 min) 500 mg/l, activated sludge (other, aquatic)

Chronic toxicity to fish:
Study scientifically not justified.

Chronic toxicity to aquatic invertebrates:
Study scientifically not justified.

Assessment of terrestrial toxicity:
No data available.

12.2. Persistence and degradability

Assessment biodegradation and elimination (H2O):
Not applicable for inorganic substances.

Elimination information:
not applicable

Assessment of stability in water:
In contact with water the substance will hydrolyse rapidly.

Information on Stability in Water (Hydrolysis):
$t_{1/2}$ 4,15 - 34 min, (calculated, pH 7)
The product has not been fully tested. The statements have been derived in parts from products of a similar structure or composition.

12.3. Bioaccumulative potential

Assessment bioaccumulation potential:
Does not significantly accumulate in organisms.

Bioaccumulation potential:

Bioconcentration factor(BCF): < 20 (28 d), Cyprinus carpio (OECD-Guideline 305)
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

12.4. Mobility in soil

Assessment transport between environmental compartments:
Volatility: The substance will not evaporate into the atmosphere from the water surface.
Adsorption in soil: No data available. Study scientifically not justified.

12.5. Results of PBT and vPvB assessment

According to Annex XIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): The product does not fulfill the criteria for PBT (Persistent/bioaccumulative/toxic) and vPvB (very persistent/very bioaccumulative). Self classification

12.6. Endocrine disrupting properties

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

12.7. Other adverse effects

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

12.8. Additional information

Adsorbable organically-bound halogen (AOX):
The Substance/product may have a halogenizing effect and therefore contribute to the OBH.

Other ecotoxicological advice:
Inhibition of degradation activity in activated sludge is not to be anticipated during correct introduction of low concentrations. Due to the pH-value of the product, neutralization is generally required before discharging sewage into treatment plants.

SECTION 13: Disposal Considerations

13.1. Waste treatment methods

Regulation of the minister of climate from January, 2nd, 2020 on classification of wastes (Law gazette no. 2020, item 10)(Poland)
Regulation regarding wastes from December, 14th, 2012 (consolidated text law gazette no. 2020 pos. 797 with amendments) and law from August, 13th, 2013 regarding packaging and packaging wastes (consolidated text law gazette no. 2020 pos. 1114 with amendments) (Poland)

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

Land transport

ADR

UN number or ID number: UN1773
UN proper shipping name: FERRIC CHLORIDE, ANHYDROUS

Transport hazard class(es):	8
Packing group:	III
Environmental hazards:	no
Special precautions for user:	Tunnel code: E

RID

UN number or ID number:	UN1773
UN proper shipping name:	FERRIC CHLORIDE, ANHYDROUS
Transport hazard class(es):	8
Packing group:	III
Environmental hazards:	no
Special precautions for user:	None known

Inland waterway transport

ADN

UN number or ID number:	UN1773
UN proper shipping name:	FERRIC CHLORIDE, ANHYDROUS
Transport hazard class(es):	8
Packing group:	III
Environmental hazards:	no
Special precautions for user:	None known

Transport in inland waterway vessel

Not evaluated

Sea transport

IMDG

UN number or ID number:	UN 1773
UN proper shipping name:	FERRIC CHLORIDE, ANHYDROUS
Transport hazard class(es):	8
Packing group:	III
Environmental hazards:	no Marine pollutant: NO
Special precautions for user:	EmS: F-A; S-B

Air transport

IATA/ICAO

UN number or ID number:	UN 1773
UN proper shipping name:	FERRIC CHLORIDE, ANHYDROUS
Transport hazard class(es):	8
Packing group:	III
Environmental hazards:	No Mark as dangerous for the environment is needed
Special precautions for user:	None known

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

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

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

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

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

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

14.7. Maritime transport in bulk according to IMO instruments
Maritime transport in bulk is not intended.

SECTION 15: Regulatory Information

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

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

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

Regulation of February, 25th, 2011 regarding chemical substances and mixtures (law gazette 2020, pos. 2289), and amendments.
Any handling of the substance must correspond to the requirements of the regulation of the Minister for work and social politics from 26. September 1997 on general occupational safety and safety at work regulations (consolidated tex law gazette no. 169, pos. 1650, of 2003)and amendments. (Poland)
Ordinance of the secretary for labour and welfare from Juni 12, 2018 about the maximal allowed limits of concentration and luminosity of hazardous factors at the working place (law gazette no.2018 pos.1286 and amendments)
Law from June, 19th, 1997 regarding prohibition of use of products, that contain asbestos (consolidated text law gazette no. 2020, pos. 1680)(Poland)
Montreal protocol from September, 16th, 1987 on substances that deplete the ozone layer (law gazette no. 98, pos. 490, from 1992 with amendments) and law from Mai, 15th, 2015 regarding substances that deplete the ozone layer and some fluorinated greenhouse gases (consolidated text law gazette no. 2019 pos.2158)(Poland).

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)
Skin Corr./Irrit. 2
Eye Dam./Irrit. 1
Skin Sens. 1

The product does not contain ozone layer damaging substances. The product does not contain asbestos.

Acute Tox.	Acute toxicity
Skin Corr./Irrit.	Skin corrosion/irritation
Eye Dam./Irrit.	Serious eye damage/eye irritation
Skin Sens.	Skin sensitization
Aquatic Chronic	Hazardous to the aquatic environment - chronic
Aquatic Acute	Hazardous to the aquatic environment - acute
Resp. Sens.	Respiratory sensitization
Muta.	Germ cell mutagenicity
Carc.	Carcinogenicity
Repr.	Reproductive toxicity

STOT RE	Specific target organ toxicity — repeated exposure
STOT SE	Specific target organ toxicity — single exposure
H318	Causes serious eye damage.
H315	Causes skin irritation.
H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H411	Toxic to aquatic life with long lasting effects.
H314	Causes severe skin burns and eye damage.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H341	Suspected of causing genetic defects.
H350i	May cause cancer by inhalation.
H360D	May damage the unborn child.
H301 + H331	Toxic if swallowed or if inhaled
H372	Causes damage to organs (Respiratory system) through prolonged or repeated exposure (inhalation).

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

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

Annex: Exposure Scenarios

Index

1. Manufacture of substance, (fine powder, high dustiness)
SU3; SU8, SU9; ERC1; PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC14, PROC15, PROC22

2. Industrial applications, (fine powder, high dustiness)
SU3; SU8, SU9, SU10, SU13, SU14, SU15, SU16, SU19, SU24; ERC2, ERC4, ERC5, ERC6a, ERC6b, ERC8f, ERC10a; PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC14, PROC15, PROC22

3. Manufacture of substance, (mid powder, medium dustiness)
SU3; SU8, SU9; ERC1; PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC9, PROC14, PROC15, PROC22

4. Industrial applications, (mid powder, medium dustiness)
SU3; SU8, SU9, SU10, SU13, SU14, SU15, SU16, SU19, SU24; ERC2, ERC4, ERC5, ERC6a, ERC6b, ERC8f, ERC10a; PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC14, PROC15, PROC22

5. Manufacture of substance, (granules, low dustiness)
SU3; SU8, SU9; ERC1; PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC14, PROC15, PROC22

6. Industrial applications, (granules, low dustiness)
SU3; SU8, SU9, SU10, SU13, SU14, SU15, SU16, SU19, SU24; ERC2, ERC4, ERC5, ERC6a, ERC6b, ERC8f, ERC10a; PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC14, PROC15, PROC22

7. Manufacture of substance, (liquid preperations)
SU3; SU8, SU9; ERC1; PROC1, PROC2, PROC3, PROC4, PROC5, PROC7, PROC8b, PROC9, PROC10, PROC12, PROC13, PROC15

8. Industrial applications, (liquid preperations)
SU3; SU8, SU9, SU10, SU13, SU14, SU15, SU16, SU19, SU24; ERC2, ERC4, ERC5, ERC6a, ERC6b, ERC8f, ERC10a; PROC1, PROC2, PROC3, PROC4, PROC5, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC12, PROC13, PROC15, PROC19

9. Professional applications, (fine powder, high dustiness)
SU22; SU1, SU10, SU13, SU19, SU24; ERC2, ERC8a, ERC8c, ERC8d, ERC8e, ERC8f, ERC10a; PROC5, PROC8a, PROC8b, PROC9, PROC15, PROC19

10. Professional applications, (mid powder, medium dustiness)
SU22; SU1, SU10, SU13, SU19, SU24; ERC2, ERC8a, ERC8c, ERC8d, ERC8e, ERC8f, ERC10a; PROC5, PROC8a, PROC8b, PROC9, PROC15

11. Professional applications, (granules, low dustiness)

SU22; SU1, SU10, SU13, SU19, SU24; ERC8a, ERC8c, ERC8d, ERC8e, ERC8f, ERC10a; PROC5, PROC8a, PROC8b, PROC9, PROC15, PROC19

12. Professional applications, (handling as solid in solution)
SU22; SU1, SU13, SU19, SU24; ERC8a, ERC8c, ERC8d, ERC8e, ERC8f, ERC10a; PROC5, PROC8a, PROC8b, PROC9, PROC10, PROC11, PROC13, PROC15, PROC19

13. Use in Metal surface treatment, etching agent, Consumer applications
SU21; SU21; ERC2, ERC6b; PC14

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1. Short title of exposure scenario

Manufacture of substance, (fine powder, high dustiness)
SU3; SU8, SU9; ERC1; PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC14, PROC15, PROC22

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	All relevant process categories As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, high dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	

In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,017 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,006071
Assessment method	Qualitative assessment
	Worker - inhalation

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, high dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,001214
Assessment method	Qualitative assessment

	Worker - inhalation

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, high dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0017 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,000607
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC4: Chemical production where opportunity for exposure arises Use domain: industrial
Operational conditions	
Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %

Physical state	Solid, high dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Wear chemically resistant gloves in combination with 'basic' employee training.	Effectiveness: 90 %
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,3429 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,122464
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC5: Mixing or blending in batch processes Use domain: industrial
Operational conditions	
Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, high dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract	

ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,001214
Assessment method	Qualitative assessment
	Worker - inhalation

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, high dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Wear chemically resistant gloves in combination with ‘basic’ employee training.	Effectiveness: 90 %
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic

Exposure estimate	0,6857 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,244893
Assessment method	Qualitative assessment
	Worker - inhalation

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, high dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,001214
Assessment method	Qualitative assessment
	Worker - inhalation

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	Iron trichloride Content: >= 0 % - <= 100 %

Physical state	Solid, medium dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,001214
Assessment method	Qualitative assessment
	Worker - inhalation

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, high dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	

In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,001214
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC14: Tabletting, compression, extrusion, pelletisation, granulation Use domain: industrial
Operational conditions	
Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, high dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,001214
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC15: Use a laboratory reagent. Use domain: industrial
Operational conditions	
Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, high dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0171 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,006107
Assessment method	Qualitative assessment
	Worker - inhalation

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, low dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C

Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,1414 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,0505
Assessment method	Qualitative assessment
	Worker - inhalation

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2. Short title of exposure scenario

Industrial applications, (fine powder, high dustiness)
SU3; SU8, SU9, SU10, SU13, SU14, SU15, SU16, SU19, SU24; ERC2, ERC4, ERC5, ERC6a, ERC6b, ERC8f, ERC10a; PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC14, PROC15, PROC22

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	All relevant process categories As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

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	Iron trichloride

	Content: >= 0 % - <= 100 %
Physical state	Solid, high dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0017 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,000607
Assessment method	Qualitative assessment
	Worker - inhalation

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, high dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or	

equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,001214
Assessment method	Qualitative assessment
	Worker - inhalation

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, high dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic

Exposure estimate	0,0017 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,000607
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC4: Chemical production where opportunity for exposure arises Use domain: industrial
Operational conditions	
Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, high dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Wear chemically resistant gloves in combination with 'basic' employee training.	Effectiveness: 90 %
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,3429 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,122464
Assessment method	Qualitative assessment
	Worker - inhalation

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

Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, high dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,001214
Assessment method	Qualitative assessment
	Worker - inhalation

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, high dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Wear chemically resistant gloves in combination with ‘basic’ employee	Effectiveness: 90 %

training.	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,6857 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,244893
Assessment method	Qualitative assessment
	Worker - inhalation

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, high dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements

	Worker - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,001214
Assessment method	Qualitative assessment
	Worker - inhalation

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, high dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,001214
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC14: Tabletting, compression, extrusion, pelletisation, granulation Use domain: industrial
Operational conditions	
Concentration of the substance	Iron trichloride

	Content: >= 0 % - <= 100 %
Physical state	Solid, high dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,001214
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC15: Use a laboratory reagent. Use domain: industrial
Operational conditions	
Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, high dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	

In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0171 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,006107
Assessment method	Qualitative assessment
	Worker - inhalation

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, low dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,1414 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,0505
Assessment method	Qualitative assessment
	Worker - inhalation

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3. Short title of exposure scenario

Manufacture of substance, (mid powder, medium dustiness)
SU3; SU8, SU9; ERC1; PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC9, PROC14, PROC15, PROC22

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	All relevant process categories As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, medium dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements

	Worker - dermal, long-term - systemic
Exposure estimate	0,0017 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,000607
Assessment method	Qualitative assessment
	Worker - inhalation

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, medium dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,001214
Assessment method	Qualitative assessment
	Worker - inhalation

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, medium dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0017 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,000607
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC4: Chemical production where opportunity for exposure arises Use domain: industrial
Operational conditions	
Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, medium dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	

Wear chemically resistant gloves in combination with 'basic' employee training.	Effectiveness: 90 %
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0343 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,012246
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC5: Mixing or blending in batch processes Use domain: industrial
Operational conditions	
Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, medium dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	

Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,001214
Assessment method	Qualitative assessment
	Worker - inhalation

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, medium dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Wear chemically resistant gloves in combination with 'basic' employee training.	Effectiveness: 90 %
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,6857 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,244893
Assessment method	Qualitative assessment
	Worker - inhalation

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, medium dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,001214
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC14: Tabletting, compression, extrusion, pelletisation, granulation Use domain: industrial
Operational conditions	
Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, medium dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week

Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,001214
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC15: Use a laboratory reagent. Use domain: industrial
Operational conditions	
Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, medium dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic

Exposure estimate	0,0171 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,006107
Assessment method	Qualitative assessment
	Worker - inhalation

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, low dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,1414 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,0505
Assessment method	Qualitative assessment
	Worker - inhalation

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4. Short title of exposure scenario

Industrial applications, (mid powder, medium dustiness)
SU3; SU8, SU9, SU10, SU13, SU14, SU15, SU16, SU19, SU24; ERC2, ERC4, ERC5, ERC6a, ERC6b, ERC8f, ERC10a; PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC14, PROC15, PROC22

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	All relevant process categories As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, medium dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0017 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,000607
Assessment method	Qualitative assessment
	Worker - inhalation

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, medium dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,001214
Assessment method	Qualitative assessment
	Worker - inhalation

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, medium dustiness
Vapour pressure of the substance during use	0,000001 Pa

Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0017 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,000607
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC4: Chemical production where opportunity for exposure arises Use domain: industrial
Operational conditions	
Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, medium dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Wear chemically resistant gloves in combination with ‘basic’ employee training.	Effectiveness: 90 %
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use	

suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0343 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,012246
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC5: Mixing or blending in batch processes Use domain: industrial
Operational conditions	
Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, medium dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,001214
Assessment method	Qualitative assessment
	Worker - inhalation

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, medium dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,6857 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,244893
Assessment method	Qualitative assessment
	Worker - inhalation

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, medium dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C

Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,001214
Assessment method	Qualitative assessment
	Worker - inhalation

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, medium dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	

Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,001214
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC14: Tabletting, compression, extrusion, pelletisation, granulation Use domain: industrial
Operational conditions	
Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, medium dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,001214
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC15: Use a laboratory reagent. Use domain: industrial
Operational conditions	

Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, medium dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0171 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,006107
Assessment method	Qualitative assessment
	Worker - inhalation

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, low dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or	

equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,1414 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,0505
Assessment method	Qualitative assessment
	Worker - inhalation

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5. Short title of exposure scenario

Manufacture of substance, (granules, low dustiness)
SU3; SU8, SU9; ERC1; PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC14, PROC15, PROC22

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	All relevant process categories As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, low dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C

Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0017 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,000607
Assessment method	Qualitative assessment
	Worker - inhalation

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, low dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable	

respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,001214
Assessment method	Qualitative assessment
	Worker - inhalation

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, low dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0017 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,000607
Assessment method	Qualitative assessment
	Worker - inhalation

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

	exposure arises Use domain: industrial
Operational conditions	
Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, low dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Wear chemically resistant gloves in combination with 'basic' employee training.	Effectiveness: 90 %
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,3429 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,122464
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC5: Mixing or blending in batch processes Use domain: industrial
Operational conditions	
Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, low dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C

Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,001214
Assessment method	Qualitative assessment
	Worker - inhalation

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, low dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Wear chemically resistant gloves in combination with ‘basic’ employee training.	Effectiveness: 90 %
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves.,	

Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,6857 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,244893
Assessment method	Qualitative assessment
	Worker - inhalation

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, low dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,001214
Assessment method	Qualitative assessment
	Worker - inhalation

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, low dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,001214
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC14: Tabletting, compression, extrusion, pelletisation, granulation Use domain: industrial
Operational conditions	
Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, low dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C

Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,001214
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC15: Use a laboratory reagent. Use domain: industrial
Operational conditions	
Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, low dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	

Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0171 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,006107
Assessment method	Qualitative assessment
	Worker - inhalation

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, low dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0141 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,00505
Assessment method	Qualitative assessment
	Worker - inhalation

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6. Short title of exposure scenario

Industrial applications, (granules, low dustiness)

SU3; SU8, SU9, SU10, SU13, SU14, SU15, SU16, SU19, SU24; ERC2, ERC4, ERC5, ERC6a, ERC6b, ERC8f, ERC10a; PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC14, PROC15, PROC22

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	All relevant process categories As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, low dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0017 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,000607
Assessment method	Qualitative assessment
	Worker - inhalation

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, low dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,001214
Assessment method	Qualitative assessment
	Worker - inhalation

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	Iron trichloride Content: >= 0 % - <= 100 %

Physical state	Solid, low dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0017 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,000607
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC4: Chemical production where opportunity for exposure arises Use domain: industrial
Operational conditions	
Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, low dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Wear chemically resistant gloves in combination with ‘basic’ employee training.	Effectiveness: 90 %
Minimise exposure by partial enclosure of the operation or	

equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,3429 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,122464
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC5: Mixing or blending in batch processes Use domain: industrial
Operational conditions	
Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, low dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,001214
Assessment method	Qualitative assessment

	Worker - inhalation

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, low dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Wear chemically resistant gloves in combination with 'basic' employee training.	Effectiveness: 90 %
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,6857 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,244893
Assessment method	Qualitative assessment
	Worker - inhalation

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	Iron trichloride Content: >= 0 % - <= 100 %

Physical state	Solid, low dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,001214
Assessment method	Qualitative assessment
	Worker - inhalation

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, low dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	

In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,001214
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC14: Tabletting, compression, extrusion, pelletisation, granulation Use domain: industrial
Operational conditions	
Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, low dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,001214
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC15: Use a laboratory reagent. Use domain: industrial
Operational conditions	
Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, low dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0171 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,006107
Assessment method	Qualitative assessment
	Worker - inhalation

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, low dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C

Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,1414 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,0505
Assessment method	Qualitative assessment
	Worker - inhalation

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7. Short title of exposure scenario

Manufacture of substance, (liquid preperations)
SU3; SU8, SU9; ERC1; PROC1, PROC2, PROC3, PROC4, PROC5, PROC7, PROC8b, PROC9, PROC10, PROC12, PROC13, PROC15

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	All relevant process categories As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

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	Iron trichloride Content: >= 0 % - <= 100 %

Physical state	liquid
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0017 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,000607
Assessment method	Qualitative assessment
	Worker - inhalation

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract	

ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,001214
Assessment method	Qualitative assessment
	Worker - inhalation

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0017 mg/kg bw/day

Risk Characterization Ratio (RCR)	0,000607
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC4: Chemical production where opportunity for exposure arises Use domain: industrial
Operational conditions	
Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Wear chemically resistant gloves in combination with 'basic' employee training.	Effectiveness: 90 %
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,3429 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,122464
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC5: Mixing or blending in batch processes Use domain: industrial
Operational conditions	
Concentration of the substance	Iron trichloride

	Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,001214
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC7: Industrial spraying Use domain: industrial
Operational conditions	
Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Wear chemically resistant gloves in combination with ‘basic’ employee training.	Effectiveness: 90 %
Minimise exposure by partial	

enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,3429 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,122464
Assessment method	Qualitative assessment
	Worker - inhalation

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day

Risk Characterization Ratio (RCR)	0,001214
Assessment method	Qualitative assessment
	Worker - inhalation

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,001214
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC10: Roller application or brushing Use domain: industrial
Operational conditions	
Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	liquid

Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Wear chemically resistant gloves in combination with 'basic' employee training.	Effectiveness: 90 %
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,1714 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,061214
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC12: Use of blowing agents in manufacture of foam Use domain: industrial
Operational conditions	
Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	

In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0017 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,000607
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC13: Treatment of articles by dipping and pouring. Use domain: industrial
Operational conditions	
Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0343 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,01225
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC15: Use a laboratory reagent. Use domain: industrial
Operational conditions	
Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0171 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,006107
Assessment method	Qualitative assessment
	Worker - inhalation

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8. Short title of exposure scenario

Industrial applications, (liquid preperations)
SU3; SU8, SU9, SU10, SU13, SU14, SU15, SU16, SU19, SU24; ERC2, ERC4, ERC5, ERC6a, ERC6b, ERC8f, ERC10a; PROC1, PROC2, PROC3, PROC4, PROC5, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC12, PROC13, PROC15, PROC19

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	All relevant process categories As no environmental hazard was identified no

	environmental-related exposure assessment and risk characterization was performed.

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0017 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,000607
Assessment method	Qualitative assessment
	Worker - inhalation

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	Iron trichloride

	Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,001214
Assessment method	Qualitative assessment
	Worker - inhalation

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial	

enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0017 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,000607
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC4: Chemical production where opportunity for exposure arises Use domain: industrial
Operational conditions	
Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Wear chemically resistant gloves in combination with ‘basic’ employee training.	Effectiveness: 90 %
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	

Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,3429 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,122464
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC5: Mixing or blending in batch processes Use domain: industrial
Operational conditions	
Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,001214
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC7: Industrial spraying Use domain: industrial
Operational conditions	
Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %

Physical state	liquid
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Wear chemically resistant gloves in combination with 'basic' employee training.	Effectiveness: 90 %
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,3429 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,122464
Assessment method	Qualitative assessment
	Worker - inhalation

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Wear chemically resistant gloves in	Effectiveness: 90 %

combination with 'basic' employee training.	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,6857 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,244893
Assessment method	Qualitative assessment
	Worker - inhalation

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	

Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,001214
Assessment method	Qualitative assessment
	Worker - inhalation

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,001214
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC10: Roller application or brushing Use domain: industrial
Operational conditions	
Concentration of the substance	Iron trichloride

	Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Wear chemically resistant gloves in combination with 'basic' employee training.	Effectiveness: 90 %
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,1714 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,061214
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC12: Use of blowing agents in manufacture of foam Use domain: industrial
Operational conditions	
Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial	

enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0017 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,000607
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC13: Treatment of articles by dipping and pouring. Use domain: industrial
Operational conditions	
Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0343 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,01225

Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC15: Use a laboratory reagent. Use domain: industrial
Operational conditions	
Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0171 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,006107
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC19: Manual activities involving hand contact Use domain: industrial
Operational conditions	
Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	0,000001 Pa

Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,3429 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,122464
Assessment method	Qualitative assessment
	Worker - inhalation

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9. Short title of exposure scenario

Professional applications, (fine powder, high dustiness)
SU22; SU1, SU10, SU13, SU19, SU24; ERC2, ERC8a, ERC8c, ERC8d, ERC8e, ERC8f, ERC10a; PROC5, PROC8a, PROC8b, PROC9, PROC15, PROC19

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	All relevant process categories As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

Contributing exposure scenario	
Use descriptors covered	PROC5: Mixing or blending in batch processes Use domain: professional
Operational conditions	
Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %

Physical state	Solid, high dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,001214
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC8a: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities Use domain: professional
Operational conditions	
Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, high dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Wear chemically resistant gloves in combination with ‘basic’ employee training.	Effectiveness: 90 %
Minimise exposure by partial enclosure of the operation or	

equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,6857 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,244893
Assessment method	Qualitative assessment
	Worker - inhalation

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, high dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,001214

Assessment method	Qualitative assessment
	Worker - inhalation

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, high dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,001214
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC15: Use a laboratory reagent. Use domain: professional
Operational conditions	
Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, high dustiness
Vapour pressure of the substance	0,000001 Pa

during use	
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0171 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,006107
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC19: Manual activities involving hand contact Use domain: professional
Operational conditions	
Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, high dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Wear chemically resistant gloves in combination with ‘basic’ employee training.	Effectiveness: 90 %
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use	

suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	1,4143 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,505107
Assessment method	Qualitative assessment
	Worker - inhalation

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10. Short title of exposure scenario

Professional applications, (mid powder, medium dustiness)
SU22; SU1, SU10, SU13, SU19, SU24; ERC2, ERC8a, ERC8c, ERC8d, ERC8e, ERC8f, ERC10a; PROC5, PROC8a, PROC8b, PROC9, PROC15

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	All relevant process categories As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

Contributing exposure scenario	
Use descriptors covered	PROC5: Mixing or blending in batch processes Use domain: professional
Operational conditions	
Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, medium dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or	

equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,001214
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC8a: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities Use domain: professional
Operational conditions	
Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, medium dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Wear chemically resistant gloves in combination with ‘basic’ employee training.	Effectiveness: 90 %
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements

	Worker - dermal, long-term - systemic
Exposure estimate	0,6857 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,244893
Assessment method	Qualitative assessment
	Worker - inhalation

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, medium dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,001214
Assessment method	Qualitative assessment
	Worker - inhalation

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	Iron trichloride

	Content: >= 0 % - <= 100 %
Physical state	Solid, medium dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,001214
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC15: Use a laboratory reagent. Use domain: professional
Operational conditions	
Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, medium dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	

In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0171 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,006107
Assessment method	Qualitative assessment
	Worker - inhalation

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11. Short title of exposure scenario

Professional applications, (granules, low dustiness)
SU22; SU1, SU10, SU13, SU19, SU24; ERC8a, ERC8c, ERC8d, ERC8e, ERC8f, ERC10a; PROC5, PROC8a, PROC8b, PROC9, PROC15, PROC19

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	All relevant process categories As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

Contributing exposure scenario	
Use descriptors covered	PROC5: Mixing or blending in batch processes Use domain: professional
Operational conditions	
Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, low dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial	

enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,001214
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC8a: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities Use domain: professional
Operational conditions	
Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, low dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Wear chemically resistant gloves in combination with ‘basic’ employee training.	Effectiveness: 90 %
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	

Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,6857 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,244893
Assessment method	Qualitative assessment
	Worker - inhalation

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, low dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,001214
Assessment method	Qualitative assessment
	Worker - inhalation

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, low dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,001214
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC15: Use a laboratory reagent. Use domain: professional
Operational conditions	
Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, low dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract	

ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0171 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,006107
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC19: Manual activities involving hand contact Use domain: professional
Operational conditions	
Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	Solid, low dustiness
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	1,4143 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,505107
Assessment method	Qualitative assessment
	Worker - inhalation

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12. Short title of exposure scenario

Professional applications, (handling as solid in solution)
SU22; SU1, SU13, SU19, SU24; ERC8a, ERC8c, ERC8d, ERC8e, ERC8f, ERC10a; PROC5, PROC8a, PROC8b, PROC9, PROC10, PROC11, PROC13, PROC15, PROC19

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	All relevant process categories As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

Contributing exposure scenario	
Use descriptors covered	PROC5: Mixing or blending in batch processes Use domain: professional
Operational conditions	
Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day

Risk Characterization Ratio (RCR)	0,001214
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC8a: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities Use domain: professional
Operational conditions	
Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Wear chemically resistant gloves in combination with 'basic' employee training.	Effectiveness: 90 %
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,6857 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,244893
Assessment method	Qualitative assessment
	Worker - inhalation

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,001214
Assessment method	Qualitative assessment
	Worker - inhalation

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	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or	

equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,001214
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC10: Roller application or brushing Use domain: professional
Operational conditions	
Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Wear chemically resistant gloves in combination with ‘basic’ employee training.	Effectiveness: 90 %
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic

Exposure estimate	0,3429 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,122464
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC11: Non industrial spraying Use domain: professional
Operational conditions	
Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Wear chemically resistant gloves in combination with 'basic' employee training.	Effectiveness: 90 %
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,3429 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,122464
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC13: Treatment of articles by dipping and pouring. Use domain: professional
Operational conditions	
Concentration of the substance	Iron trichloride

	Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0343 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,01225
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC15: Use a laboratory reagent. Use domain: professional
Operational conditions	
Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	

In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0171 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,006107
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC19: Manual activities involving hand contact Use domain: professional
Operational conditions	
Concentration of the substance	Iron trichloride Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	0,000001 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Risk Management Measures	
Wear chemically resistant gloves in combination with ‘basic’ employee training.	Effectiveness: 90 %
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
In case of potential exposure:, Use suitable chemically resistant gloves., Use suitable eye protection.	
In case no suitable local exhaust ventilation is present:, Wear suitable respiratory protection.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v3.6, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	1,4143 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,505107

Assessment method	Qualitative assessment
	Worker - inhalation

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13. Short title of exposure scenario

Use in Metal surface treatment, etching agent, Consumer applications
SU21; SU21; ERC2, ERC6b; PC14

Control of exposure and risk management measures

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

Contributing exposure scenario	
Use descriptors covered	PC14: Metal surface treatment products, including galvanic and electroplating products.
Operational conditions	
Concentration of the substance	Iron trichloride Content: 40 %
Physical state	liquid
	Corresponds to a vapour pressure < 0.01 Pa
Indoor/Outdoor	Indoor, Outdoor
Risk Management Measures	
Consumer Measures	Use of suitable gloves. Use suitable eye protection.
Exposure estimate and reference to its source	
Assessment method	ConsExpo v4.1
	Consumer - inhalation, long-term - systemic
Exposure estimate	0 mg/m³
Risk Characterization Ratio (RCR)	0
Assessment method	ConsExpo v4.1
	Consumer - dermal, long-term - systemic
Exposure estimate	< 0,36 mg/kg bw/day
Risk Characterization Ratio (RCR)	< 0,86
	Worst case assumption
Guidance to Downstream Users	
For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp	

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