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Safety data sheet

BASF Safety data sheet according to Regulation UK SI 2019/758 and UK SI 2020/1577 as amended from time to time.
Date / Revised: 01.10.2023 Version: 4.0
Date previous version: 04.02.2010 Previous version: 3.0
Date / First version: 27.12.2007
Product: **Iron trichloride solution (FeCl3)**
(ID no. 30042289/SDS_GEN_GB/EN)
Date of print 16.10.2025

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

1.1. Product identifier

Iron trichloride solution (FeCl3)

UFI: UCTA-48CS-T00H-WNW6

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

Relevant identified uses: Chemical
Recommended use: process chemical, flocculation agent, Water purification

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 plc
4th and 5th Floors, 2 Stockport Exchange
Railway Road, Stockport, SK1 3GG
UNITED KINGDOM

Telephone: +44 161 475 3000
E-mail address: product-safety-uk-and-ireland@basf.com

1.4. Emergency telephone number

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

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

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

According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567

Met. Corr. 1	H290 May be corrosive to metals.
Eye Dam./Irrit. 1	H318 Causes serious eye damage.

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 GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567

Pictogram:

Signal Word:
Danger

Hazard Statement:

H290	May be corrosive to metals.
H318	Causes serious eye damage.

Precautionary Statements (Prevention):

P280	Wear eye and face protection.
P234	Keep only in original packaging.

Precautionary Statements (Response):

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or physician.
P390	Absorb spillage to prevent material damage.

Precautionary Statements (Storage):

P406	Store in corrosive resistant container with a resistant inner liner.

Hazard determining component(s) for labelling: Iron trichloride

2.3. Other hazards

According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567

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.

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

Not applicable

3.2. Mixtures

Chemical nature

Iron trichloride

dissolved in: Water

Contains: inorganic metal salts, Manganese dichloride (Content (W/W): < 0.5 %), nickel dichloride (Content (W/W): < 0.01 %)

Hazardous ingredients (GHS)

Iron trichloride

Content (W/W): 40 %	Acute Tox. 4 (oral)
CAS Number: 7705-08-0	Skin Corr./Irrit. 2
EC-Number: 231-729-4	Eye Dam./Irrit. 1
REACH registration number: 01-2119497998-05	H318, H315, H302

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

SECTION 4: First-Aid Measures

4.1. Description of first aid measures

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

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

On ingestion:
Rinse mouth and then drink 200-300 ml of water. Immediate medical attention required.

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.

skin irritation, irritates the eyes and respiratory tract

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:
water spray

5.2. Special hazards arising from the substance or mixture
Endangering substances: hydrogen chloride
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:
Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems. Contaminated extinguishing water must be disposed of in accordance with official regulations. 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 eyes.

6.2. Environmental precautions

Due to the pH-value of the product, neutralization is generally required before discharging sewage into treatment plants. Do not discharge into waterways or sewer systems without proper authorization.

6.3. Methods and material for containment and cleaning up
For small amounts: Rinse away with water.
For large amounts: Neutralize with lime.
For residues: Dispose of contaminated material as prescribed.

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
Protection against fire and explosion:
The substance/product is non-combustible.

7.2. Conditions for safe storage, including any incompatibilities
Segregate from metals. Segregate from reducing agents.

Suitable materials for containers: High density polyethylene (HDPE), Low density polyethylene (LDPE), Polyester resin, glass reinforced (Palatal A410), rubberized, glass
Unsuitable materials for containers: Aluminium, Carbon steel (Iron), Stainless steel 1.4541, Stainless steel 1.4571
Further information on storage conditions: Keep in a cool place.

Protect from temperatures below: -12 °C

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

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.

Components with DNEL

7705-08-0: Iron trichloride

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 gases/vapours are formed. Gas filter for acid inorganic gases/vapours such as SO2, HCl (e.g. EN 14387 Type E).

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
fluoroelastomer (FKM) - 0.7 mm coating thickness
butyl rubber (butyl) - 0.7 mm coating thickness
chloroprene rubber (CR) - 0.5 mm coating thickness
nitrile rubber (NBR) - 0.4 mm coating thickness
Manufacturer's directions for use should be observed because of great diversity of types.
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.

Eye protection:
Tightly fitting safety goggles (cage goggles) (e.g. EN 166) and face shield.

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

Form:	liquid
Colour:	brown
Odour:	odourless
Odour threshold:	
	not applicable, odour not perceivable

pH value:	1 (40 %(m), 20 °C)	(OECD Guideline 122)
crystallization temperature:	-12 °C Literature data.	
Boiling point:	> 100 °C (1,013 bar) Literature data.	
Flash point:	not applicable, Aqueous preparation	
Evaporation rate:	negligible, Value can be approximated from Henry's Law Constant or vapor pressure.	
Flammability:	not flammable	
Lower explosion limit:	For liquids not relevant for classification and labelling.	
Upper explosion limit:	For liquids not relevant for classification and labelling.	
Ignition temperature:	not applicable	
Vapour pressure:	< 23 mbar (20 °C) Literature data. < 100 mbar (50 °C) Literature data.	
Density:	1,430 kg/m3 (20 °C)	(OECD Guideline 109)
Solubility in water:	soluble	

Information on: iron trichloride
Partitioning coefficient n-octanol/water (log Kow): -4
(24 °C)

Self ignition:	not self-igniting
Thermal decomposition:	To avoid thermal decomposition, do not overheat.
Viscosity, dynamic:	10 mPa.s (40 %(m), 20 °C) Literature data.
Viscosity, kinematic:	not determined
Explosion hazard:	not explosive
Fire promoting properties:	not fire-propagating

9.2. Other information

Miscibility with water:
(15 °C)
completely (e.g. >=90%)

Grain size distribution: The substance / product is marketed or used in a non solid or granular form.

SECTION 10: Stability and Reactivity

10.1. Reactivity

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

Corrosion to metals: Corrosive effect on metals. Corrosion rate > 6.25 mm/a using a Type 3 test steal. Corrosion rate > 6.25 mm/a using 7075-T6 or AZ5GU-T6 The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

10.2. Chemical stability

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

10.3. Possibility of hazardous reactions

No hazardous reactions when stored and handled according to instructions.
The product is chemically stable.

10.4. Conditions to avoid

Avoid heat.

10.5. Incompatible materials

Substances to avoid:
metal

10.6. Hazardous decomposition products

Hazardous decomposition products:
hydrogen chloride

SECTION 11: Toxicological Information

11.1. Information on toxicological effects

Acute toxicity

Assessment of acute toxicity:
Virtually nontoxic after a single ingestion. Inhalation-risk test (IRT): No mortality within 8 hours as shown in animal studies. The inhalation of a highly saturated vapor-air mixture represents no acute hazard.

Experimental/calculated data:
LD50 rat (oral): approx. 2,900 mg/kg (BASF-Test)

Irritation

Experimental/calculated data:
Skin corrosion/irritation
rabbit: non-irritant (BASF-Test)

Serious eye damage/irritation
rabbit: Risk of serious damage to eyes. (BASF-Test)

Respiratory/Skin sensitization

Assessment of sensitization:
No reliable data were available concerning sensitization. A sensitizing effect on particularly sensitive individuals cannot be excluded.

Germ cell mutagenicity

Assessment of mutagenicity:
No mutagenic effect was found in various tests with bacteria and mammalian cell culture.

Experimental/calculated data:
Mouse lymphoma assay
negative
The data on toxicology refer to the active ingredient.

Information on: Iron trichloride
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

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

Reproductive toxicity

Information on: Iron trichloride
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

Information on: Iron trichloride

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)

Information on: Iron trichloride
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

No aspiration hazard expected.

SECTION 12: Ecological Information

12.1. Toxicity

Information on: Iron trichloride
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.

Information on: Iron trichloride
Toxicity to fish:
Study scientifically not justified.

Information on: Iron trichloride
Aquatic invertebrates:
Study scientifically not justified.

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

12.2. Persistence and degradability

Assessment biodegradation and elimination (H2O):
Inorganic product which cannot be eliminated from water by biological purification processes.
Elimination from water by precipitation or flocculation.

Information on: Iron trichloride
Assessment biodegradation and elimination (H2O):
Not applicable for inorganic substances.

12.3. Bioaccumulative potential

Bioaccumulation potential:
Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.

12.4. Mobility in soil

Assessment transport between environmental compartments:
Adsorption in soil: No data available. Study scientifically not justified.

12.5. Results of PBT and vPvB assessment

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

12.6. Other adverse effects

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

12.7. 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

The UK Environmental Protection (Duty of Care) Regulations (EP) and amendments should be noted (United Kingdom).

This product and any uncleaned containers must be disposed of as hazardous waste in accordance with the 2005 Hazardous Waste Regulations and amendments (United Kingdom)

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:	UN2582
UN proper shipping name:	FERRIC CHLORIDE, SOLUTION
Transport hazard class(es):	8
Packing group:	III
Environmental hazards:	no
Special precautions for user:	Tunnel code: E

RID

UN number or ID number:	UN2582
UN proper shipping name:	FERRIC CHLORIDE, SOLUTION
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:	UN2582
UN proper shipping name:	FERRIC CHLORIDE, SOLUTION
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 2582
UN proper shipping name:	FERRIC CHLORIDE, SOLUTION
Transport hazard class(es):	8
Packing group:	III
Environmental hazards:	no Marine pollutant: NO
Special precautions for user:	

Air transport

IATA/ICAO

UN number or ID number:	UN 2582
UN proper shipping name:	FERRIC CHLORIDE SOLUTION
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.

Further information
This product is subject to the most recent edition of "The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations" and their amendments (United Kingdom).

SECTION 15: Regulatory Information

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

Prohibitions, Restrictions and Authorizations

Annex XVII of Regulation (EC) No 1907/2006: Number on List: 3

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

The data should be considered when making any assessment under the Control of Substances Hazardous to Health Regulations (COSHH), and related guidance, for example, 'COSHH Essentials' (United Kingdom).

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

15.2. Chemical Safety Assessment

Chemical Safety Assessment performed

SECTION 16: Other Information

This product is of industrial quality and unless otherwise specified or agreed intended exclusively for industrial use. Any other intended applications should be discussed with the manufacturer.

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

Met. Corr.	Corrosive to metals
Eye Dam./Irrit.	Serious eye damage/eye irritation
Acute Tox.	Acute toxicity
Skin Corr./Irrit.	Skin corrosion/irritation
H290	May be corrosive to metals.
H318	Causes serious eye damage.
H315	Causes skin irritation.

H302	Harmful if swallowed.

Abbreviations
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road. ADN = The European Agreement concerning the International Carriage of Dangerous Goods by Inland waterways. ATE = Acute Toxicity Estimates. CAO = Cargo Aircraft Only. CAS = Chemical Abstract Service. CLP = Classification, Labelling and Packaging of substances and mixtures. DIN = German national organization for standardization. DNEL = Derived No Effect Level. EC50 = Effective concentration median for 50% of the population. EC = European Community. EN = European Standards. IARC = International Agency for Research on Cancer. IATA = International Air Transport Association. IBC-Code = Intermediate Bulk Container code. IMDG = International Maritime Dangerous Goods Code. ISO = International Organization for Standardization. STEL = Short-Term Exposure Limit. LC50 = Lethal concentration median for 50% of the population. LD50 = Lethal dose median for 50% of the population. TLV = Threshold Limit Value. MARPOL = The International Convention for the Prevention of Pollution from Ships. NEN = Dutch Norm. NOEC = No Observed Effect Concentration. OEL = Occupational Exposure Limit. OECD = Organization for Economic Cooperation and Development. PBT = Persistent, 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, (liquid preparations)
IS; SU8, SU9; ERC1; PROC1, PROC2, PROC3, PROC4, PROC5, PROC7, PROC8b, PROC9, PROC10, PROC12, PROC13, PROC15

2. Industrial applications, (liquid preparations)
IS; 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

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

4. Use in Metal surface treatment, etching agent, Consumer applications
C; C; ERC2, ERC6b; PC14

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1. Short title of exposure scenario

Manufacture of substance, (liquid preparations)
IS; 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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2. Short title of exposure scenario

Industrial applications, (liquid preparations)
IS; 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	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	0.0034 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 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	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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3. Short title of exposure scenario

Professional applications, (handling as solid in solution)
PW; 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	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	0.0034 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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4. Short title of exposure scenario

Use in Metal surface treatment, etching agent, Consumer applications
C; C; 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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