



SAFETY DATA SHEET

ALUMINIUM CHLORIDE 6-HYDRATE

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

1.1. Product identifier

Product name	ALUMINIUM CHLORIDE 6-HYDRATE
Product number	23388
Synonyms; trade names	ALUMINIUM CHLORIDE HEXAHYD PH HNL
REACH registration number	01-2119459371-39-XXXX
CAS number	7784-13-6
EC number	231-208-1

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

Identified uses	Industrial application Chemical
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1.3. Details of the supplier of the safety data sheet

Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com
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1.4. Emergency telephone number

Emergency telephone	SGS - +32 (0)3 575 55 55 (24h)
Sds No.	23388

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards	Not Classified
Health hazards	Skin Corr. 1B - H314 Eye Dam. 1 - H318
Environmental hazards	Not Classified

2.2. Label elements

EC number	231-208-1
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Hazard pictograms



Signal word	Danger
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Hazard statements	H314 Causes severe skin burns and eye damage.
Precautionary statements	P260 Do not breathe dust. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P501 Dispose of contents/ container in accordance with national regulations.
Supplemental label information	EUH071 Corrosive to the respiratory tract.

2.3. Other hazards

This substance is not classified as PBT or vPvB according to current EU criteria. The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1. Substances

Product name	ALUMINIUM CHLORIDE 6-HYDRATE
REACH registration number	01-2119459371-39-XXXX
CAS number	7784-13-6
EC number	231-208-1
Ingredient notes	Acute Toxicity Estimate (oral): Rat 3470 mg/kg
Composition comments	The data shown are in accordance with the latest EC Directives.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Rinse nose and mouth with water. Get medical attention.
Ingestion	Rinse mouth thoroughly with water. Do not induce vomiting. If vomiting occurs, the head should be kept low so that stomach vomit doesn't enter the lungs. Give plenty of water to drink. Get medical attention immediately.
Skin contact	Remove affected person from source of contamination. Remove contaminated clothing. Wash skin thoroughly with soap and water. Get medical attention.
Eye contact	Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention.

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

Inhalation	Corrosive to the respiratory tract.
Ingestion	The product irritates mucous membranes and may cause abdominal discomfort if swallowed.
Skin contact	Causes severe burns.
Eye contact	Causes severe burns.

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

Notes for the doctor	Treat symptomatically.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Extinguish with foam, carbon dioxide, dry powder or water fog.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products Corrosive gases or vapours. Hydrogen chloride (HCl).

5.3. Advice for firefighters

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Wear protective clothing as described in Section 8 of this safety data sheet. Avoid inhalation of dust and contact with skin and eyes. Provide adequate ventilation.

6.2. Environmental precautions

Environmental precautions Avoid discharge into water courses or onto the ground. Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Remove spillage with vacuum cleaner. If not possible, collect spillage with shovel, broom or the like. Collect and place in suitable waste disposal containers and seal securely. For waste disposal, see Section 13.

6.4. Reference to other sections

Reference to other sections For personal protection, see Section 8. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Avoid handling which leads to dust formation. Avoid inhalation of dust and contact with skin and eyes. Provide adequate ventilation.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in tightly-closed, original container in a dry, cool and well-ventilated place.

Storage class Corrosive storage.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure controls/Personal protection

8.1. Control parameters

Ingredient comments No exposure limits known for ingredient(s).

DNEL
Workers - Inhalation; Long term local effects: 1 mg/m³
Workers - Inhalation; Short term local effects: 2 mg/m³
Consumer - Oral; Long term systemic effects: 0.3 mg/kg/day

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8.2. Exposure controls

Protective equipment



Appropriate engineering controls

Provide adequate general and local exhaust ventilation.

Eye/face protection

The following protection should be worn: Chemical splash goggles. Personal protective equipment for eye and face protection should comply with European Standard EN166.

Hand protection

The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. The selected gloves should have a breakthrough time of at least 8 hours. Rubber (natural, latex). Thickness: 0.6 mm To protect hands from chemicals, gloves should comply with European Standard EN374.

Other skin and body protection

Wear appropriate clothing to prevent any possibility of skin contact.

Hygiene measures

Wash at the end of each work shift and before eating, smoking and using the toilet.

Respiratory protection

If ventilation is inadequate, suitable respiratory protection must be worn. EN 136/140/141/145/143/149

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Solid
Colour	Colourless.
Odour	Odourless.
Odour threshold	No information available.
pH	pH (concentrated solution): 2.5 - 3.5
Melting point	No information available.
Initial boiling point and range	No information available.
Flash point	Data lacking.
Evaporation rate	No information available.
Evaporation factor	No information available.
Flammability (solid, gas)	No information available.
Upper/lower flammability or explosive limits	Data lacking.
Other flammability	No information available.
Vapour pressure	Data lacking.
Vapour density	No information available.
Relative density	2.4 @ 20°C
Bulk density	700 kg/m ³
Solubility(ies)	Soluble in water. 477 g/l water @ 20°C

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Partition coefficient	No information available.
Auto-ignition temperature	Data lacking.
Decomposition Temperature	No information available.
Viscosity	Data lacking.
Explosive properties	No information available.
Explosive under the influence of a flame	No information available.
Oxidising properties	No information available.

9.2. Other information

Other information	No information required.
Refractive index	No information available.
Particle size	No information available.
Molecular weight	No information available.
Volatility	No information available.
Saturation concentration	No information available.
Critical temperature	No information available.
Volatile organic compound	No information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	There are no known reactivity hazards associated with this product.
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10.2. Chemical stability

Stability	Stable at normal ambient temperatures and when used as recommended.
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10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	Will not polymerise.
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10.4. Conditions to avoid

Conditions to avoid	Avoid heat, flames and other sources of ignition.
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10.5. Incompatible materials

Materials to avoid	Alkalis.
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10.6. Hazardous decomposition products

Hazardous decomposition products	When heated, vapours/gases hazardous to health may be formed. Hydrogen chloride (HCl).
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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Acute toxicity oral (LD ₅₀ mg/kg)	3,470.0
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Species	Rat
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Skin corrosion/irritation

Skin corrosion/irritation Causes severe burns.

Serious eye damage/irritation

Serious eye damage/irritation Causes serious eye damage.

Respiratory sensitisation

Respiratory sensitisation Data lacking.

Skin sensitisation

Skin sensitisation Data lacking.

Germ cell mutagenicity

Genotoxicity - in vitro Data lacking.

Carcinogenicity

Carcinogenicity Data lacking.

Reproductive toxicity

Reproductive toxicity - fertility Data lacking.

Specific target organ toxicity - single exposure

STOT - single exposure Data lacking.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Data lacking.

Aspiration hazard

Aspiration hazard Data lacking.

Inhalation Corrosive to the respiratory tract.

Ingestion The product irritates mucous membranes and may cause abdominal discomfort if swallowed.

Skin contact Causes severe burns.

Eye contact Causes serious eye damage.

SECTION 12: Ecological information

Ecotoxicity The product components are not classified as environmentally hazardous. However, large or frequent spills may have hazardous effects on the environment.

12.1. Toxicity

Toxicity Not considered toxic to fish.

Acute aquatic toxicity

Acute toxicity - fish LC₅₀, 96 hours: 36.6 mg/l, Oncorhynchus mykiss (Rainbow trout)
NOEC, 42 days: 0.25 mg/l, Oncorhynchus mykiss (Rainbow trout)

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 27.3 mg/l, Daphnia magna
NOEC, 21 days: 0.8 mg/l, Daphnia magna

12.2. Persistence and degradability

Persistence and degradability The product contains inorganic substances which are not biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential No data available on bioaccumulation.

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Partition coefficient No information available.

12.4. Mobility in soil

Mobility The product is soluble in water.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

12.6. Other adverse effects

Other adverse effects The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Waste is classified as hazardous waste.

Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

SECTION 14: Transport information

General Wear protective clothing as described in Section 8 of this safety data sheet.

14.1. UN number

UN No. (ADR/RID) 3260

UN No. (IMDG) 3260

UN No. (ICAO) 3260

UN No. (ADN) 3260

14.2. UN proper shipping name

Proper shipping name (ADR/RID) CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (ALUMINIUM CHLORIDE 6-HYDRATE)

Proper shipping name (IMDG) CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (ALUMINIUM CHLORIDE 6-HYDRATE)

Proper shipping name (ICAO) CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (ALUMINIUM CHLORIDE 6-HYDRATE)

Proper shipping name (ADN) CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (ALUMINIUM CHLORIDE 6-HYDRATE)

14.3. Transport hazard class(es)

ADR/RID class 8

ADR/RID classification code C2

ADR/RID label 8

IMDG class 8

ICAO class/division 8

ADN class 8

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Transport labels



14.4. Packing group

ADR/RID packing group	II
IMDG packing group	II
ICAO packing group	II
ADN packing group	II

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant
No.

14.6. Special precautions for user

IMDG Code segregation group	1. Acids
EmS	F-A, S-B
ADR transport category	2
Emergency Action Code	2X
Hazard Identification Number (ADR/RID)	80
Tunnel restriction code	(E)

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

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

SECTION 15: Regulatory information

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

EU legislation	Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended). Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended). COMMISSION REGULATION (EU) 2020/878 of 18 June 2020
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15.2. Chemical safety assessment

A chemical safety assessment has been carried out.

Inventories

Canada - DSL/NDSL

All the ingredients are listed or exempt.
DSL

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US - TSCA

All the ingredients are listed or exempt.

Australia - AICS

All the ingredients are listed or exempt.

China - IECSC

All the ingredients are listed or exempt.

New Zealand - NZIOC

All the ingredients are listed or exempt.

SECTION 16: Other information

Abbreviations and acronyms used in the safety data sheet

ATE: Acute Toxicity Estimate.
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
CAS: Chemical Abstracts Service.
DNEL: Derived No Effect Level.
IATA: International Air Transport Association.
IMDG: International Maritime Dangerous Goods.
Kow: Octanol-water partition coefficient.
LC₅₀: Lethal Concentration to 50 % of a test population.
LD₅₀: Lethal Dose to 50% of a test population (Median Lethal Dose).
PBT: Persistent, Bioaccumulative and Toxic substance.
PNEC: Predicted No Effect Concentration.
REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006.
RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
vPvB: Very Persistent and Very Bioaccumulative.
IARC: International Agency for Research on Cancer.
MARPOL 73/78: International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978.
cATpE: Converted Acute Toxicity Point Estimate.
BCF: Bioconcentration Factor.
BOD: Biochemical Oxygen Demand.
EC₅₀: 50% of maximal Effective Concentration.
LOAEC: Lowest Observed Adverse Effect Concentration.
LOAEL: Lowest Observed Adverse Effect Level.
NOAEC: No Observed Adverse Effect Concentration.
NOAEL: No Observed Adverse Effect Level.
NOEC: No Observed Effect Concentration.
LOEC: Lowest Observed Effect Concentration.
DMEL: Derived Minimal Effect Level.
EL50: Exposure Limit 50
hPa: Hectopascal
LL50: Lethal Loading fifty
OECD: Organisation for Economic Co-operation and Development
POW: Octanol-water partition coefficient
SCBA: self-contained breathing apparatus
STP: Sewage Treatment Plant
VOC: Volatile Organic Compounds

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Classification abbreviations and acronyms	Acute Tox. = Acute toxicity Aquatic Acute = Hazardous to the aquatic environment (acute) Aquatic Chronic = Hazardous to the aquatic environment (chronic)
Key literature references and sources for data	Supplier's information.
Revision comments	NOTE: Lines within the margin indicate significant changes from the previous revision.
Revision date	09/04/2023
Version number	1.001
Supersedes date	05/04/2019
SDS number	23388
SDS status	Approved.
Hazard statements in full	H314 Causes severe skin burns and eye damage. H318 Causes serious eye damage.
Signature	Jitendra Panchal

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.



Exposure scenario

Manufacture of substance, Distribution of substance

Identification

Product name	Aluminium Chloride
REACH registration number	01-2119459371-39-XXXX
CAS number	7446-70-0
EC number	231-208-1
EU index number	013-003-00-7
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Manufacture of substance, Distribution of substance
Main sector	SU3 Industrial uses

Environment

Environmental release category	ERC1 Manufacture of the substance
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Worker

Process category	PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC4 Chemical production where opportunity for exposure arises PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

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

2. Conditions of use affecting exposure (Workers - Health 1)

Manufacture of substance, Distribution of substance

Product characteristics

Physical state	Solid
Concentration details	Covers concentrations up to 100 %.
	The substance is hygroscopic and will absorb water by contact with the moisture in the air.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).
 PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
 PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities
 PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
 Covers daily exposure up to 60minutes

Other given operational conditions affecting workers exposure

Setting	Indoor.
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Technical conditions and measures at process level (source) to prevent release

Technical protective measures	Provide extract ventilation to points where emissions occur. Efficiency of at least 90% , or: Use suitable respiratory protection if ventilation is inadequate.
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Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures	Clean equipment and the work area every day. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.
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Risk management measures

Wear chemically-resistant gloves (tested to EN374) in combination with specific activity training.
 Use suitable eye protection.
 Wear suitable coveralls to prevent exposure to the skin.

Additional advice	Avoid frequent contact with substance.
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3. Exposure estimation (Health 1)

Assessment method	ECETOC TRA v2.0 Worker
Exposure	PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions Worker - inhalation, long-term - local and systemic: Exposure 0.05 mg/m³, DNEL 0.2 mg/m³, RCR 0.25 PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition Worker - inhalation, long-term - local and systemic: Exposure 0.1 mg/m³, DNEL 0.2 mg/m³, RCR 0.5 PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) Worker - inhalation, long-term - local and systemic: Exposure 0.1 mg/m³, DNEL 0.2 mg/m³, RCR 0.5 PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities Worker - inhalation, long-term - local and systemic: Exposure 0.05 mg/m³, DNEL 0.2 mg/m³, RCR 0.25

Manufacture of substance, Distribution of substance

Worker - dermal Qualitative approach used to conclude safe use.

4. Guidance to check compliance with the exposure scenario (Health 1)

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



Exposure scenario

Use in chemical synthesis, Use as Reactive process agent

Identification

Product name	Aluminium Chloride
REACH registration number	01-2119459371-39-XXXX
CAS number	7446-70-0
EC number	231-208-1
EU index number	013-003-00-7
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Use in chemical synthesis, Use as Reactive process agent
Main sector	SU3 Industrial uses
Sector of use	SU8 Manufacture of bulk, large-scale chemicals (including petroleum products) SU9 Manufacture of fine chemicals

Environment

Environmental release category	ERC1 Manufacture of the substance ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article) ERC6a Use of intermediate ERC6b Use of reactive processing aid at industrial site (no inclusion into or onto article)
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Worker

Process category	PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC22 Manufacturing and processing of minerals and/or metals at substantially elevated temperature PROC26 Handling of solid inorganic substances at ambient temperature
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

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

2. Conditions of use affecting exposure (Workers - Health 1)

Use in chemical synthesis, Use as Reactive process agent

Product characteristics

Physical state	Solid in solution
Concentration details	Covers concentrations up to 100 %.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting	Indoor.
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Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures	Clean equipment and the work area every day. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.
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Risk management measures

Wear chemically-resistant gloves (tested to EN374) in combination with specific activity training.
Use suitable eye protection.
Wear suitable coveralls to prevent exposure to the skin.

Additional advice	Avoid frequent contact with substance.
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3. Exposure estimation (Health 1)

Assessment method	ECETOC TRA v2.0 Worker
Exposure	Worker - inhalation, long-term - local and systemic: Exposure <0.01 mg/m ³ , DNEL 0.2 mg/m ³ , RCR <0.01 Worker - dermal Qualitative approach used to conclude safe use.

4. Guidance to check compliance with the exposure scenario (Health 1)

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



Exposure scenario Use as an intermediate

Identification

Product name	Aluminium Chloride
REACH registration number	01-2119459371-39-XXXX
CAS number	7446-70-0
EC number	231-208-1
EU index number	013-003-00-7
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Use as an intermediate
Main sector	SU3 Industrial uses

Environment

Environmental release category	ERC1 Manufacture of the substance ERC6a Use of intermediate
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Worker

Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

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

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state	Solid in solution
Concentration details	Covers concentrations up to 100 %.

Frequency and duration of use

Use as an intermediate

Covers daily exposures up to 8 hours (unless stated differently).

Covers daily exposure up to 60minutes

Other given operational conditions affecting workers exposure

Setting Indoor.

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Provide extract ventilation to points where emissions occur.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Clean equipment and the work area every day. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Risk management measures

Wear chemically-resistant gloves (tested to EN374) in combination with specific activity training.

Use suitable eye protection.

Wear suitable coveralls to prevent exposure to the skin.

Additional advice Avoid frequent contact with substance.

3. Exposure estimation (Health 1)

Exposure Worker - inhalation, long-term - local and systemic: Exposure <0.01 mg/m³, DNEL 0.2 mg/m³, RCR <0.01

Worker - dermal Qualitative approach used to conclude safe use.

4. Guidance to check compliance with the exposure scenario (Health 1)

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



Exposure scenario

Use as a Process chemical, Use in process water treatment, Use in sewage water treatment

Identification

Product name	Aluminium Chloride
REACH registration number	01-2119459371-39-XXXX
CAS number	7446-70-0
EC number	231-208-1
EU index number	013-003-00-7
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Use as a Process chemical, Use in process water treatment, Use in sewage water treatment
Main sector	SU3 Industrial uses SU22 Professional uses
Sector of use	SU5 Manufacture of textiles, leather, fur SU6b Manufacture of pulp, paper and paper products SU23 Electricity, steam, gas, water supply and sewage treatment

Environment

Environmental release category	ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article) ERC5 Use at industrial site leading to inclusion into/onto article ERC8b Widespread use of reactive processing aid (no inclusion into or onto article, indoor) ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
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Worker

Process category	PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC4 Chemical production where opportunity for exposure arises PROC5 Mixing or blending in batch processes
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

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

Use as a Process chemical, Use in process water treatment, Use in sewage water treatment

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state Solid in solution

Concentration details Covers concentrations up to 100 %.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Covers daily exposure up to 60minutes

Other given operational conditions affecting workers exposure

Setting Indoor/outdoor use.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Clean equipment and the work area every day. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Risk management measures

Wear chemically-resistant gloves (tested to EN374) in combination with specific activity training.

Use suitable eye protection.

Wear suitable coveralls to prevent exposure to the skin.

Additional advice Avoid frequent contact with substance.

3. Exposure estimation (Health 1)

Exposure Worker - inhalation, long-term - local and systemic: Exposure <0.01 mg/m³, DNEL 0.2 mg/m³, RCR <0.01

Worker - dermal Qualitative approach used to conclude safe use.

4. Guidance to check compliance with the exposure scenario (Health 1)

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



Exposure scenario

Use in laboratories, Use as laboratory reagent/agent

Identification

Product name	Aluminium Chloride
REACH registration number	01-2119459371-39-XXXX
CAS number	7446-70-0
EC number	231-208-1
EU index number	013-003-00-7
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Use in laboratories, Use as laboratory reagent/agent
Main sector	SU3 Industrial uses SU22 Professional uses

Environment

Environmental release category	ERC1 Manufacture of the substance ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article) ERC6a Use of intermediate ERC6b Use of reactive processing aid at industrial site (no inclusion into or onto article)
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Worker

Process category	PROC15 Use as laboratory reagent.
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

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

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state	Solid
Concentration details	Covers concentrations up to 100 %. The substance is hygroscopic and will absorb water by contact with the moisture in the air.

Use in laboratories, Use as laboratory reagent/agent

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Covers daily exposure up to 60minutes

Other given operational conditions affecting workers exposure

Setting Indoor/outdoor use. Indoor.

Technical conditions and measures at process level (source) to prevent release

Technical protective measures SU3 Industrial uses Local exhaust ventilation - efficiency of at least [%]: 90

SU22 Professional uses Local exhaust ventilation - efficiency of at least [%]: 80

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Clean equipment and the work area every day. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Risk management measures

Wear chemically-resistant gloves (tested to EN374) in combination with specific activity training.

Use suitable eye protection.

Wear suitable coveralls to prevent exposure to the skin.

Use suitable respiratory protection if ventilation is inadequate.

Additional advice Avoid frequent contact with substance.

3. Exposure estimation (Health 1)

Exposure SU3 Industrial uses
 Worker - inhalation, long-term - local and systemic: Exposure 0.05 mg/m³, DNEL 0.2 mg/m³, RCR 0.25
 SU22 Professional uses
 Worker - inhalation, long-term - local and systemic: Exposure 0.1 mg/m³, DNEL 0.2 mg/m³, RCR 0.5
 Worker - dermal Qualitative approach used to conclude safe use.

4. Guidance to check compliance with the exposure scenario (Health 1)

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